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GOVERNMENT OF INDIA
PLANNING COMMISSION

SECOND FIVE YEAR PLAN

A DRAFT OUTLINE

P.C. 29
50,000

Explanatory Note

The expressions 'lakh' and 'crore' signify 100,000 and 10,000,000 respectively

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SECOND FIVE YEAR PLAN

A DRAFT OUTLINE

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INTRODUCTION

THE beginning and the end of a five year plan are vital dates in the nation's history. Each five year plan is both an assessment of the past and a call for the future. It seeks to translate into practical action the aspirations and ideals of the millions in the country and gives to each of us the opportunity of service in the common cause of eliminating poverty and raising standards of living.

2. The first five year plan ends in March, 1956. Its approach and outlook are part of our common thinking. It has prepared the way for achieving the socialist pattern of society—an economic and social order, based upon the values of freedom and democracy, without caste, class and privilege, in which there will be a substantial rise in employment and production and the largest measure of social justice attainable.

3. This Draft Outline sets out the substance of the proposals of the Planning Commission for the second five year plan. It is being offered for general information and for eliciting comments and suggestions. After taking these into consideration a fuller version of the second five year plan will be presented.

4. Work on the second five year plan has now been in progress for nearly two years. In April 1954 the Planning Commission requested State Governments to arrange for the preparation of district and village plans, especially in relation to agricultural production, rural industries and cooperation. The preparation of such plans was undertaken as it was felt that local initiative in formulating plans and local resources in carrying them out should be stimulated to the maximum extent possible. In sectors of the plan which are closely related to the welfare of large numbers of people, local planning is an essential means for securing greater public participation and voluntary effort.

5. It was recognised from the beginning that plans for districts and villages had to be fitted within the framework of State plans which would, in turn, take cognizance of plans prepared from the point of view of the country as a whole. Even within a State certain types of development have to be planned on a State or regional basis.

Yet, it is true to say that the district is the pivot of the whole structure of planning. At this point plans from different sectors come intimately into the life of the people.

6. The study of wider aspects of national planning in the Planning Commission and in the Central Ministries also commenced during 1954. Towards the end of the year the assistance of the Indian Statistical Institute was obtained for the study of technical and statistical problems relating to national planning. A number of working papers were prepared at the Institute. In March 1955 the results of these studies and of others carried out in the Central Statistical Organisation and the Economic Divisions of the Ministry of Finance and the Planning Commission were, brought together in Professor P. C. Mahalanobis's 'Draft Recommendations for the Formulation of the Second Five Year Plan' (commonly referred to as the 'plan-frame') and in a "Tentative Framework for the Second Five Year Plan" which was prepared by the Economic Divisions of the Ministry of Finance and the Planning Commission. These documents were considered in April by the Planning Commission's Panel of Economists, which drew up a 'Memorandum on Basic Considerations Relating to the Plan-Frame'.. Members of the Panel also prepared a number of studies on individual aspects.

7. The 'plan-frame' and the other documents mentioned above were considered by the National Development Council early in May 1955. The National Development Council generally agreed with the basic approach of the 'plan-frame' and with the policy considerations relating to it which were put forward in the Memorandum of the Panel of Economists. The Council also agreed that the second five year plan should be drawn up so as to be capable of leading to an increase in national income of about 25 percent over a period of five years and of providing employment opportunities to 10 to 12 million persons. Further, the Council directed that the second five year plan should be drawn up so as to give concrete expression to policy decisions relating to the socialistic pattern of society.

8. The various documents mentioned above were released for public information and comment. All over the country between May and August 1955, the issues raised in these documents were widely discussed.

9. While the draft plan-frame was thus under consideration, the Central Ministries and State Governments were proceeding with the preparation of their detailed proposals for the second five year plan. Discussions with State Governments began in July and continued up to October 1955. These discussions afforded an opportunity to the Planning Commission to review the broader aspects of

individual State plans in consultation with Chief Ministers. Detailed examination of the proposals of States took place in working groups in which senior officials from the Central Ministries, State Governments and the Planning Commission collaborated. On the basis of recommendations made in these discussions, State Governments have sent their revised draft plans to the Planning Commission. Detailed discussions with Central Ministries were in progress throughout the summer and concluded in the beginning of December, 1955.

10. A draft memorandum embodying the proposals relating to the second five year plan was prepared at the end of December 1955 and was considered in meetings of the Standing Committee of the National Development Council and of the Consultative Committee of Members of Parliament. Later, on the 20th and 21st January, 1956 the draft memorandum was considered by the National Development Council along with recommendations which had emerged from the earlier discussions. In the light of these discussions and the preliminary comments received from the Central Ministries, State Governments and others on the draft memorandum, the present Outline has been prepared.

11. The plan which is now presented as a Draft Outline is a result of the labours of large numbers of persons in the Central Government, in the States at various levels and leaders of thought and opinion in every part of the country. In its preparation men and women in all walks of life have given generously of their time and experience. The enthusiasm and the widespread participation which have gone into the making of the second five year plan are the best augury for its fulfilment.

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CHAPTER 1

APPROACH TO THE SECOND FIVE YEAR PLAN

THE primary object of the first five year plan was to lay the foundations on which a more progressive and diversified economy could be built up. There were certain urgent problems, such as shortages of food and raw materials and persistent inflationary pressures, which it had to attend to. But the plan was intended essentially as a preparation for more rapid advance in the future. The problems of the economy were viewed in the context of long-range requirements, and programmes of development were worked out which sought to meet the immediate needs and at the same time to initiate a process of balanced and all-round economic development. The second five year plan has to build on the gains already secured and to carry forward the process that has been initiated. Again, in working out the plan, a wider perspective extending over a period of three or four plans has to be kept in mind.

2. The economy has responded well to the stimulus of the first plan. Both agricultural and industrial production have recorded substantial increases. Prices have attained a reasonable level. The country's external accounts are virtually in balance. The important targets proposed in the first plan have been realised, and some of them have in fact been exceeded. Some 17 million acres of land have been brought under irrigation in these five years, and the installed capacity for generation of power has been increased from 2·3 million kW to 3·4 million kW. Considerable progress has been made with the rehabilitation of railways. A large number of industrial plants both in the public and private sectors have gone into production. It has, on the other hand, not been possible to utilise the provisions in the plan for a new iron and steel plant and for the setting up of a heavy electrical plant except to a small extent, and there have also been shortfalls in expenditure on community projects, education, village and small industries, etc. On the whole, there is no doubt that the economy has been greatly strengthened. The plan has introduced a new dynamic element in a long static situation. National income over the last five years is estimated to have risen by about 18 per cent as against the original expectation of about 11 per cent. Development expenditure in the public sector in 1955-56 is over 2½ times the level in 1951-52. Investment in the private sector has also been close to expectations. All

this development has been achieved without excessive strains or imbalances developing in the economy. The Plan has evoked a great deal of co-operation and participation on the part of the people. It has created an atmosphere of confidence and, indeed, of heightened expectations. In a country which starts on the career of development, each step forward is, of course, a reminder of the possibilities and needs ahead and every achievement to date is a call for further effort.

Objectives

3. The principal objective of the second five year plan is to secure a more rapid growth of the national economy and to increase the country's productive potential in a way that will make possible accelerated development in the succeeding plan periods. Immediate needs have to be met, but it is essential to think in terms of the more long-range dividends that a big and bold programme of development has to offer. A country like India which starts late on industrialisation has to encompass within a relatively brief period processes of development which took several generations in countries which had an early start. To this end resources have to be mobilised and deployed effectively and purposefully. The essence of developmental planning is a coordinated use of the real resources available for the achievement of defined aims. The results obtainable vary directly with the quantum of resources that can be mobilised and the efficiency with which these resources are directed towards priority uses. A plan not only draws on existing resources; it develops and enlarges on them in the process. Resources are not a fixed or static quantity; they lie unknown or partially known unless conscious and organised efforts are made to locate them and develop them. In this context, intensive and systematic surveys and explorations, especially in the field of mineral resources are of vital importance, and every effort has to be made to train up a corps of scientists and technicians for this purpose. Economic growth means not only more production but also more—and increasingly more—capacity to produce. In this process, the development of human faculties and skills is no less important than the marshalling of material resources. Development also involves the adoption of new techniques and a readaptation and strengthening of the institutional framework of society. The second five year plan has to increase the flow of goods and services available and also to carry forward the process of institutional change.

4. The second five year plan has been formulated with reference to the following principal objectives:—

(a) a sizeable increase in national income so as to raise the level of living in the country;

(b) rapid industrialisation with particular emphasis on the development of basic and heavy industries;

(c) a large expansion of employment opportunities; and

(d) reduction of inequalities in income and wealth and a more even distribution of economic power.

These objectives are interrelated. A significant increase in national income and a marked improvement in living standards cannot be secured without a substantial increase in production and investment. To this end, the building up of economic and social overheads, exploration and development of minerals and the promotion of basic industries like steel, machine building, coal and heavy chemicals are vital. For securing an advance simultaneously in all these directions, the available manpower and natural resources have to be used to the best advantage and in a country in which there is relative abundance of manpower, expansion of employment opportunities becomes an important objective in itself. Further, the process and pattern of development should reflect certain basic social values and purposes. Development should result in a diminution of economic and social inequalities and should be achieved through democratic means and processes. Economic objectives cannot be divorced from social objectives and means and objectives go together. It is only in the context of a plan which satisfies the legitimate urges of the people that a democratic society can put forward its best effort.

5. All these objectives require a diversified economic pattern. Low or static standards of living, under-employment and unemployment, and to a certain extent even the gap between the average incomes and the highest incomes are all manifestations of the basic under-development which characterises an economy depending mainly on agriculture. Rapid industrialisation is thus the core of development. But if industrialisation is to be rapid enough, the country must aim at developing industries which make machines to make the machines needed for the large number of industries in the field of consumer goods and intermediate products. This is possible only if substantial expansion is under-taken in iron and steel, non-ferrous metals, coal, cement, heavy chemicals and other industries of basic importance. The limitation is, of course, the scarcity of resources and the many urgent claims on them. Nevertheless, the

criterion is not merely immediate needs but the continuing and expanding needs in the coming years as development goes forward. India's known natural resources are relatively large, and in many of these fields, as in steel for instance, she is likely to have a comparative cost advantage. It is desirable to aim at proceeding farthest in the direction of developing heavy and capital goods industries which conform to this criterion.

6. Industrial development along these lines requires a great deal of capital but it absorbs comparatively little manpower. Investment in basic industries creates demands for consumer goods, but it does not enlarge the supply of consumer goods in the short run. A balanced pattern of industrialisation, therefore, requires a well-organised effort to utilise labour for increasing the supplies of much-needed consumer goods. Reliance on relatively labour-intensive modes of production might mean a smaller increase in the supply of consumer goods than might be possible otherwise. But, this only brings out the inevitability of a measure of sacrifice in the matter of consumption while the economy is being strengthened at the base. The sacrifice diminishes as more power, more transport, and better tools, machinery and equipment become available for increasing the productivity of consumer goods industries, and in the long run the community gets increasingly large returns. Meanwhile, the stress on utilisation of unutilised or under-utilised labour-power alleviates the immediate problem of unemployment.

EMPLOYMENT

7. The question of increasing employment opportunities cannot be viewed separately from the programmes of investment envisaged in the plan. Employment is implicit in and follows investment, and it is, of course, a major consideration in determining the pattern of investment. The fact that the plan involves substantial stepping up of investment and development expenditures means that it will raise incomes and increase the demand for labour all round. An employment- orientated plan, however, implies much more than determining the optimum scale of investment. The creation of employment opportunities and reduction in under-employment cannot be approached merely in overall terms. The problem needs to be broken up in terms of sectors, regions and classes. Studies made in the Commission indicate that although the second five year plan will not have any significant impact on the carry-over of unemployment of the earlier period, it will provide employment opportunities for the new entrants to the labour force and relieve under-employment in agriculture and in village and small industries. Continuous technical

studies regarding the employment component of various types of investment and of the relationship between the direct employment resulting from an act of investment and the consequential increase it leads to will be necessary. Undoubtedly, the working force in mining and factory establishments, in construction, in trade and transport and in services will increase relatively faster than in agriculture and allied pursuits. This in itself is a good beginning. Over a period, a larger shift in the occupational pattern away from the primary sector and into the secondary and tertiary sectors will be necessary and is to be expected. There are in the plan substantial programmes of irrigation, soil conservation, improvement of animal husbandry and agricultural improvement in general. These, together with the programmes relating to village and small industries, will diminish under-employment in the rural areas. Basically, it has to be remembered, unemployment in an under-developed economy is only another aspect of the problem of development. The same factors which limit the scale of effort a community can make by way of increasing the rate of development limit also the advance in the direction of employment. The plan contemplates a large expansion in construction activity both in the public and private sectors, and it should be possible to vary the volume of such activity within limits in response to the requirements of the employment situation.

THE SOCIALIST PATTERN OF SOCIETY

8. The achievement of a socialist pattern of society has been accepted as the objective of economic policy. This means that the basic criterion for determining the lines of advance is not private profit but social gain. Major decisions regarding production, distribution, consumption and investment—and in fact the entire pattern of socio-economic relationships—must be made by agencies informed by social purpose. The benefits of economic development must accrue more and more to the relatively less privileged classes of society, and there should be a progressive reduction of the concentration of incomes, wealth and economic power. The problem is to create a milieu in which the small man who has so far had little opportunity of perceiving and participating in the immense possibilities of growth through organised effort is enabled to put in his best in the interests of a higher standard of life for himself and increased prosperity for the country. In the process, he rises in economic and social status. Vertical mobility of labour is thus no less important than horizontal mobility. For creating these conditions, the State has to take on heavy responsibilities as the principal agency speaking for and acting on behalf of the community as a whole. The public sector has to expand rapidly and the private sector has to play its part within the framework of the comprehensive plan accepted by the community.

9. The use of modern technology requires large scale production and a unified control and allocation of resources in certain major lines of activity. These include exploitation of minerals and basic and capital goods industries which are major determinants of the rate of growth of the economy. The responsibility for new developments in these fields must be undertaken in the main by the State, and the existing units have also to fall in line with the emerging pattern. Public ownership, partial or complete, and public control or participation in management are specially required in those fields in which technological considerations tend towards a concentration of economic power and of wealth. In several fields, private enterprise can, under present day conditions, make little headway without assistance and support from Government, and in these cases the public or semi-public character of the resources drawn upon has to be recognised. In the rest of the economy conditions have to be created in which there is fullest scope for private initiative and enterprise either on an individual or on a cooperative basis. In a growing economy which gets increasingly diversified there is scope for both the public and the private sectors to expand simultaneously.

10. The socialist pattern of society is not to be regarded as some fixed or rigid pattern. It is not rooted in any doctrine or dogma. Each country has to develop according to its own genius and traditions. Economic and social policy has to be shaped from time to time in the light of historical circumstances. But, a clear sense of direction and a consistent regard for certain basic values are necessary. The accent of the socialist pattern is on the attainment of positive goals: the raising of living standards and the enlargement of opportunities for all, the promotion of enterprise among the disadvantaged classes and the creation of a sense of partnership among all sections of the community. The directive principles of State policy in the Constitution have already indicated the approach in broad terms. The socialist pattern is a more concretised expression of this approach. Economic policy and institutional changes have to be planned in accordance with the democratic and egalitarian ideals which the country cherishes and is resolved to pursue.

THE TASK

11. The size and pattern of the second five year plan are described in the second chapter. Briefly, the Central and State Governments propose to incur a total outlay of Rs. 4,800 crores over the five-year period. Of this, irrigation and power claim 18 per cent; agriculture including community projects and national extension, 12 per cent; industries and minerals, 19 per cent; transport and communications, 29 per cent; and social services including housing and rehabilitation of displaced persons, 20 per cent. These allocations may have to be

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altered a little in response to particular needs, but the percentages mentioned indicate the pattern of allocations. The priorities which underlie these allocations reflect the clear emphasis in the plan on industrialisation. Within industry the development of basic and capital goods industries has been given high precedence. This necessitates large investments in transport and communications. Provision has also been made for expansion of irrigation and power which are of importance to agriculture as well as to industry. The community development and national extension programmes provide a technique of development which activises large numbers of people in the rural areas and fosters economic growth on the basis of self-reliance and cooperative effort. A large expansion of this programme has been envisaged in the plan. There is special need for revitalising this sector of the economy in view of the large number of persons dependent on it and their extremely low levels of living at present. The provision for social services amounting to 20 per cent of the total is admittedly inadequate relatively to needs. High priority has been given to expansion of training facilites for technical personnel needed for the plan, and proposals have been made for realising within the next ten years the directive of the Constitution relating to the provision of free and compulsory education for all children upto the age of 14. The combined result of the development programmes in the public and private sectors is an increase in national income by about 25 per cent.

12. A plan may be expressed for convenience in terms of the financial outlay proposed to be incurred. Essentially, however, a plan represents the concrete tasks to be completed within the defined period. These tasks involve certain inputs—the use of so much labour, the setting up of so much plant and machinery, the application of certain types of skills and techniques, etc. Correspondingly, the results of the plan are reflected in certain outputs—so much food and raw materials, so much of consumer goods and so much of the means and instruments of production which, in due course, would result in further production of consumer goods. The magnitude of the tasks undertaken and the significance of the results to be attained can perhaps be appreciated better in such real terms.

13. The second five year plan calls upon the Central and State Governments to undertake large developments some of which represent extension of activity along lines already familiar, but some relate to relatively new lines. The plan proposes an increase of 21 million acres in the area to be brought under irrigation. It envisages an increase in the capacity for electric power generation from 3·4 million kW at the commencement of the second plan period to 6.8 million kW by the end of that period. The railways are expected to

equip themselves for a 15 per cent increase in passenger miles and a 35 per cent. increase in freight tons; the calls on them may, in fact, prove to be larger. This requires substantial additions to locomotives, coaches and wagons, construction of some new lines, increases in line capacity, electrification of certain sections and extensive construction works of various kinds. Under the community development programme intensive work has been proposed in 3800 national extension blocks and 1120 community project blocks. Altogether, this programme is to be expanded so as to cover a population of 325 million by 1960-61 as compared to the present coverage of 80 millions. This means covering almost the entire rural area. All these programmes, as also programmes relating to social services, call for a great deal of finance and organisation. These are fields in which there is already sufficient experience, and the necessary personnel is either available or can be quickly trained. In addition, a large expansion of the public sector in the sphere of industrial and mineral development is envisaged. The main rseponsibility for these new types of programmes rests upon the Central Government. The carrying through of these new programmes will entail besides the financial investment required, a great deal of strengthening of the organisational and administrative personnel available to Government. It will also necessitate the adoption of expeditious procedures in the matter of taking decisions and executing them. It is, in fact, intended to strengthen further the programmes of development in respect of heavy industries, oil exploration and coal and to make a beginning with the development of atomic energy. The dynamism of the second plan lies to a considerable extent in these new programmes, on the fulfilment of which all efforts have to be concentrated. The results which the second plan promises are impressive, but correspondingly large is the effort that it calls forth by way of mobilisation and application of real and financial resources.

14. These developments in the public sector have to be viewed together with those envisaged in the private sector. The increase in the output of goods and services to be secured over the plan period is the result of developments in both these sectors. The two sectors have to function in unison and are to be viewed as parts of a single mechanism. The plan as a whole can go through only on the basis of simultaneous and balanced development in the two sectors. The plan incorporates the investment decisions taken by the public authorities, and the corresponding outputs or benefits can easily be estimated. For the private sector, Government policy can influence private decisions through fiscal measures, through licensing and, to the extent necessary, through direct physical allocations so as to promote and to facilitate the realisation of the targets proposed. A large part of the private sector consists of millions of small pro-

ducers scattered all over the country. Investment estimates and targets in these fields can only be in the nature of broad indications. Even in the field of organised industry and business for which more data are available and which are more amenable to incentives or curbs offered or introduced by Government, there cannot obviously be the same degree of closeness or integration between resources and performance as in the case of activities directly undertaken by Government. Various investments in the public sector, such as for irrigation, power and transport, for instance, increase the production potential of the private sector, and the producers or enterprises concerned can be expected to take advantage of these facilities. Given an appropriate structure of relative prices, which Government can and has to control and influence, the desired allocation of resources in the private sector can be induced. In fact, it is appropriate to think more and more in terms of an interpenetration of the public and private sectors rather than of two separate sectors.

Industrial Policy

15. These are general considerations bearing on the formulation of industrial policy in the context of planning. The Government of India's industrial policy since Independence has been shaped broadly in terms of the comprehensive Industrial Policy Resolution of 1948. That Resolution emphasised clearly the responsibility of Government in the matter of promoting, assisting and regulating the development of industry in the national interest. It envisaged for the public sector an increasingly active role. While it reiterated the inherent right of the State to acquire any industrial undertaking whenever the public interest requires it, it laid down, in view of the circumstances then existing, a certain demarcation of fields for the public and private sectors. The Resolution is being reviewed and recast in the light of the experience gained and the requirements of the economy. The 1948 Resolution reserves the manufacture of arms and ammunition, the production and control of atomic energy and the ownership and management of railways exclusively to the Central Government. It states specifically that in an emergency Government has always the power to take over any industry vital for national defence. In the case of six designated industries the Resolution places upon the State the exclusive responsibility for establishing new undertakings, but the State may secure the cooperation of private enterprise where necessary in the public interest. The rest of the industrial field the Resolution left open to private enterprise, individual as well as cooperative. It was envisaged, however, that the State would also progressively participate in this field; nor would it hesitate to intervene whenever the

progress of an industry under private enterprise was unsatisfactory. The Resolution also listed 18 industries of importance for Central regulation and control. It is proposed now to restate the policy approach, to review these three lists and to indicate afresh the fields to be reserved for public enterprise, the fields in which public enterprise has to take on larger responsibility, and the fields in which private enterprise is to function subject to over-all regulation and control.

16. The ownership and the right to exploit and develop mineral resources vest in the State. These resources are of vital importance for the country's industrial development and it is essential that their exploitation should be governed by public purpose and contribute to the maximum to the furtherance of national development. This can best be secured by the State itself undertaking the further development and exploitation of these resources. There may be special cases where the importance of the mineral concerned may not warrant public ownership and management. There may be others where the State may desire to associate private enterprise with it for reasons of public interest. In any case, the principal responsibility for mineral development must lie with the State.

17. In the industrial field proper, new units producing basic capital goods and heavy machinery must be under public ownership and management. Even here there may be scope in particular cases and in certain circumstances for undertakings owned and operated jointly by the State and private enterprise. In other industries where Government assists substantially by providing long-term finance, it should preferably offer equity participation rather than loans on fixed interest. Enumeration and classification of industries to be placed in the various categories requires close scrutiny and has to be decided upon in the light of practical requirements of each case. The point to emhasise is that the increasing role of the public sector, and its duty to provide entrepreneurship and management over a wide field must be clearly recognised, and action must be initiated to equip it for the efficient discharge of these responsibilities.

18. The Industrial Policy Resolution of 1948 also indicates the approach to the problem of cottage and small industries. A great deal of further thinking has been done on this subject since then. It is evident that from the point of view of development as well as the creation of new employment opportunities, this is a crucial sector of the economy. The need to promote, modernise and reorganise these industries is paramount. The problem is one of devising effective policies as well as of making suitable organisational arrangements. Unregulated or haphazard application of modern

techniques in all spheres of production is apt to create or aggravate technological unemployment. There is need for regulation here. This is not to suggest that a freezing of existing techniques or a preference for inefficient techniques is at all indicated by considerations of economic or social policy. It only means that conditions have to be created in which modern techniques can be adopted and introduced more and more in these lines of production and that the transition should be orderly. One of the handicaps of workers in traditional industries is the lack of space and other facilities since, in most cases, it is a part of the house that is used as a workshop. It will be desirable, therefore, to organise in rural areas community workshops where workers in different types of industries can come together and carry on their production activities in a suitable environment. There is similarly need for encouraging small and medium-scale enterprise through a number of industrial estates with facilities for transport, power and the like provided by public authorities. In spheres in which it is possible to increase employment and output through village and small industries and where these industries are capable of using improved techniques progressively, it is necessary to think in terms of integral programmes of production covering factories as well as small units of production. The second five year plan has laid special stress on increasing the supply of consumer goods by using existing skills and equipment and steadily introducing technical improvements in the village and small industries sector. This sector has to be organised more and more on cooperative lines so as to enable the small producer to secure the advantages of buying raw materials and selling his products on a large scale, of getting access to institutional credit and of utilising improved methods and techniques. An integral programme of production may in some cases work on the basis of differential taxation; in others, a buying over at stated prices and a State-sponsored or cooperative marketing arrangement may be needed.

19. The problem is not to be viewed as one of merely safeguarding the interests of workers in existing cottage or handicraft units. It is also—and increasingly—one of finding new types and patterns of production which, with the new techniques that can be made available and in view of the new demands that rising incomes will create, can be worked efficiently and economically. It is the promotional rather than the protective aspect of policy which has to become more and more important in the adaptation and reorganisation proposed in this sector. If cottage and small industries have not fared well so far, one reason is the stagnancy of the economy and the consequent lack of demand. The increase in investment activity which developmental planning involves will

increase existing demands and will create new ones. In a country like India with vast distances and a large potential market, these demands can and ought to be met through production in efficient, decentralised units. There are other reasons also which weigh in favour of a wide diffusion of industry. Up to a point the growth of large towns and cities is a necessary accompaniment of industrialisation. The availability of power, transport, banking and other facilities in concentrated areas provides certain economies which make for an aggregation of industry in big towns and cities. Beyond a point, however, there are social costs like emergence of slums and increased incidence of ill-health. With the development of transport, communications and power, the economic advantage in favour of highly concentrated areas also narrows. From this point of view as also for raising incomes in rural and semi-urban areas, the development of small industries deserves special attention. Only thus is it possible to draw upon the large reservoir of skills and talents available over the vast areas of the country.

FINANCE

20. The role of an adequate financial and credit mechanism in promoting development—overall and in particular directions—is well recognised and needs hardly to be emphasised. Important steps towards an orientation of this mechanism to the needs of development have been taken in the first plan period. The Imperial Bank of India—the biggest commercial bank in the country—has been converted into a public-owned and public-managed State Bank with a view to the expansion and institutionalisation of rural credit. The Reserve Bank of India not only discharges its regulatory functions in the sphere of currency, credit and foreign exchange; it assists actively in the development of cooperative credit agencies. The far-reaching recommendations of the Rural Credit Survey Committee in respect of the reorganisation of rural credit under the sponsorship of the Reserve Bank and the State are being implemented. The task involved in making credit at reasonable rates available all over the rural areas is formidable, but the new and integrated approach involving joint and coordinated action by cooperative agencies, the Reserve Bank and the State, envisaged in the new reorganisation proposals, will make a rapid advance possible. In the industrial sphere, the Industrial Finance Corporation and the Industrial Credit and Investment Corporation are designed to meet the special needs of the private sector, and the National Industrial Development Corporation will enable Government to take up promotional and developmental work along new lines. Special institutions are needed for assistance to and promotion of small businesses, and a beginning has been made in this direction

through the establishment of State Finance Corporations and the Central Small Industries Corporation. It may be necessary also to develop further institutions which could provide the nucleus for a properly organised new issue market especially as a diminishing role is being envisaged for the managing agency system. The recent decision to nationalise life insurance has added another potent instrument to the repertory of the public sector for raising savings and for regulating and directing the flow of funds in accordance with the requirements of the plan.

21. It cannot be emphasized too strongly that the success of a plan depends on the efficiency with which the necessary resources are raised, and in a democratic system, finance is the major instrument for raising and directing resources. The carrying through of a plan of the size envisaged will entail the adoption of fiscal policies designed to enlarge the resources of Government. In the scheme of financing set forth in the next chapter, estimates have been given of the additional taxation required, of the extent to which the borrowing programmes of the Central and State Governments will have to be stepped up, and of the measure in which deficit financing can be resorted to. All these are techniques for drawing upon the savings of the community, and it is important to emphasize that they all denote the effort to be made domestically. External resources that might become available for the plan can, in the nature of things, hardly be estimated in advance. In qualitative terms, such supplemental resources can contribute significantly to the success of the plan, but the bulk of the effort needed has to be made by the community itself. Continued and accelerating development cannot be achieved in any other way.

22. An inflationary impact is implicit in any stepping up of investment, but this impact is apt to be greater and more disturbing if a relatively large proportion of the expenditure to be incurred is financed through creation of money. The provision for deficit financing in the plan is relatively large, and even after allowing for this, there remains a residual gap, for filling which no sources are at this stage indicated. This suggests that a larger tax effort than is set forth in the scheme of financing outlined in the next chapter is called for; in any case, the target for additional taxation indicated there must be regarded as the minimum to be attempted.

Economic Policy and Techniques

23. Overall fiscal and monetary discipline alone is rarely adequate for bringing about the desired allocation of resources. It has to be supplemented by direct controls and allocations. In a developing economy, the basic trend of governmental operations in

the fiscal and monetary field is inevitably expansionist. The curtailment of public expenditure and other curbing devices can and ought to be adopted only in the last resort. The use of foreign exchange reserves for augmenting domestic supplies and so lessening inflationary pressures is obviously limited by the existing level of such reserves. Nevertheless, a developmental programme cannot be abandoned or slowed down at the first appearance of difficulties or bottlenecks. A measure of risk has to be taken. There has to be corresponding preparedness to adopt the necessary controls, and these controls have to form a fairly integrated system if they are to succeed.

24. A planned approach to development necessitates, in a word, an integration of economic and social policies *inter se* and in terms of the objectives and priorities on which the plan is based. The techniques or instruments to be employed may and have to vary in the light of requirements. In some cases, fiscal or price incentives may have to be relied on; in others, licensing procedures and practices may have to be adjusted; in still others foreign exchange allocations, sanctions of capital issues, fixation of profit margins or allocations of scarce raw materials may be necessary. A plan must carry with it these sanctions or regulatory devices; for, by definition, it is an attempt to improve upon the results that can be achieved under unregulated and uncoordinated play of private incentives and decisions. Nor are mere regulatory devices enough. Progressively, as we have seen, the State—and the cooperative sector—has to enlarge its field of operation, and this carries with it increased capacity to gather the surpluses arising out of sales of the goods, services and amenities provided. That in turn makes further investment possible. It is not only regulation within the existing structure that can answer the needs of development; the structure itself has to change.

25. The aim of this chapter has been to set forth the broad approaches to the plan and to indicate the direction of policy and institutional change implicit in developmental planning. The application of these approaches and policy considerations in particular fields such as agrarian reforms and labour relations has to be considered in detail separately. This has been done in the appropriate chapters of this report. There remain, however, one or two aspects of the plan to which reference must be made here.

Reduction in Inequalities

26. An improvement in living standards, an increase in investment, an expansion of employment opportunities and a reduction in inequalities of income and wealth—all these can follow only

from the totality of measures and institutional changes undertaken. To take an instance, various fiscal devices have been suggested for reducing inequalities of income and wealth: steeper progression in income tax, enhancement of estate duties, a small annual tax on wealth, taxation of higher incomes on the basis of expenditure rather than of income, etc. Each of such proposals has to be examined in the light of its revenue yield, its effect on incentives, its administrative implications and the net contribution it makes to the objective in view, namely, the reduction in inequalities. The Taxation Enquiry Commission considered this question. It stressed the point that the attainment of a wider measure of equality in incomes, wealth and opportunities must form an integral part of economic development and social advance currently. The principle of a limit on income disparities and on private accumulation beyond a point is part of accepted thinking on these problems; the best means of applying it in practice have to be worked out. There is general agreement that personal incomes in the highest ranges should bear a reasonable relationship to average per capita or per family incomes in the country. The Taxation Enquiry Commission suggested thirty times the prevailing per family incomes as a reasonable 'ceiling' on net personal incomes after tax, and it is necessary to advance towards this objective by stages.

27. Fiscal measures can assist in this process; but more important than these are positive measures to increase incomes at lower levels, to expand employment opportunities for disadvantaged classes, to expand training facilities all round and to eliminate exploitative credit and marketing arrangements. The problem, briefly, is not merely one of reducing existing inequalities, it is the positive one of creating conditions in which great disparities in income will not develop. From this point of view organisational changes, such as reform of land tenures, reorganisation of land management, the encouragement of decentralised modes of production and the increasing role of the public sector are of vital importance.

28. There is another type of disparities which should be mentioned in this context, namely, disparities in levels of development as between different regions in the country. In a comprehensive plan of development the special needs of the less developed areas have to be kept in view, so that the entire pattern of investment is adapted to the securing of balanced regional development in the country. This question has been recently considered by the National Development Council and it has been agreed in principle that within the resources available for development every effort should be made to provide for balanced development in different

parts of the country. This problem has to be approached in a variety of ways. In the first place, the National Development Council has recommended programmes for setting up decentralised industrial production. Secondly, in the location of new enterprises, whether public or private, consideration should be given to the need for developing a balanced economy for different parts of the country. Some industries have to be located in particular areas in view of the availability of the necessary raw materials or other natural resources. There are, however, industries in regard to the location of which, on economic considerations, also, there is a larger field of choice. Thirdly, steps have to be taken to promote greater mobility between different parts of the country, including organisation of schemes of migration and settlement from more to less densely populated areas. The National Development Council recommended that there should be continuous study of the problem of diminishing regional disparities and a suitable set of indicators should be evolved.

Plan as Framework

29. One final observation needs to be made. A plan covering a five year period has to be regarded as essentially flexible. The second five year plan as outlined in this document indicates the magnitude and significance of the tasks to be undertaken, the order of benefits resulting from the developments proposed, and the means and techniques by which resources have to be mobilised and harnessed to the tasks undertaken. The policy implications of the plan have also been brought out in broad terms. There are naturally uncertainties attached to the various estimates that can be made in advance for a period of five years. It is also possible that some of the programmes set forth in the plan may take a little more time to complete. In a plan of the dimensions envisaged, experience may indicate fields where expenditures could be speeded up and others where progress may turn out to be somewhat slower. The plan has, therefore, to be adjusted and adapted from time to time. It is not enough in the context of planning to think merely in terms of a balance between supplies and demands in aggregate terms; what is required is balance between requirements and availabilities, especially of key resources at all stages. A great deal of continuous technical and statistical work is necessary for this purpose. Moreover, as development proceeds, new problems emerge, on account either of developments within the economy or of factors operating from without. Then, again, a five year time horizon is convenient for certain purposes; for others a longer

perspective of 15 or 20 years is necessary. As this latter becomes clearer, or as new possibilities or directions of development emerge, the priorities in respect of projects or programmes to be taken in hand immediately may alter. In view of these considerations, the plan must be regarded as a framework within which more concrete and detailed plans for each year have to be worked out and implemented.

CHAPTER II

THE PLAN IN OUTLINE

Plan Outlay and Allocations

The total developmental outlay of the Central and State Governments over the period of the plan works out at Rs. 4800 crores. The distribution of this outlay by major heads of development is as under:—

Rs. crores.

	First Plan Total provision	Per cent.	Second Plan Total provision	Per cent.
1. Agriculture and community development . .	372	16	565	12
2. Irrigation and flood control	395	17	458	9
3. Power	266	11	440	9
4. Industries and minerals .	179	7	891	19
5. Transport and communications	556	24	1384	29
6. Social services, housing and rehabilitation . .	547	23	946	20
7. Miscellaneous . . .	41	2	116	2
Total .	2356	100	4800	100

A more detailed statement is given in Annexure I.

2. These allocations reflect the priorities adopted for the plan. The main stress in the second plan is on industrialisation. With industry are associated mining and railway development. Railways have also a large backlog of replacements and renewals to make up. In consequence, industrial and mineral development together with transport and communications claims nearly one-half of the total expenditure in the second plan as compared to about a third of the total in the first plan. If power is also taken as a part of industrial development, the outlay for this purpose works out at 57 per cent. In the first plan, irrigation and schemes directly related to agricultural development accounted for about one-third of the total outlay; the corresponding provision in the second plan is about one-fifth of

the total. The outlay on social services, including housing and rehabilitation, is about 20 per cent. of the total; this is about the same percentage as was devoted to these heads in the first plan.

3. The case for a big advance towards industrialisation hardly needs to be argued in detail. The Indian economy at present depends excessively on agriculture. It has to be diversified, and special stress has to be laid on basic and capital goods industries if more rapid rates of development in the future are to be sustained. The increases in agricultural production and in national income during the first plan period have prepared the ground for a greater emphasis on industrialisation. The need for a large provision for industries in the second plan is all the greater for the reason that the expenditure under this head has lagged behind the provisions made in the first plan. Expenditure under large scale industries, scientific research and minerals over the period of the first plan is expected to amount to about Rs. 75 crores as against the allocation of Rs. 149 crores. The second plan allocates Rs. 691 crores to these heads. The provision of Rs. 200 crores for village and small industries is additional to this allocation. The ancillary requirements of industrial development in the form of economic overheads are reflected in the large provision of Rs. 1384 crores on transport and communications, which includes Rs. 900 crores for railways.

4. The shortages of food and essential raw materials which presented a serious problem when the first plan was formulated have been overcome. Nonetheless, there cannot be any question of a relaxation of efforts to increase agricultural productivity. The population of India is increasing at the rate of 4·5 to 5 million a year. The large programmes of investment proposed for the second plan period will create new incomes, a significant proportion of which will be spent on food. The demand for raw materials will also go up with industrialisation. For many years to come, the raising of agricultural yields will remain an important objective of development. Programmes of irrigation, of supply of better seed and fertiliser, of improvements in animal husbandry and in agricultural practices in general have in fact to be accelerated. National extension and community development programmes represent the biggest single dynamic element in rural reconstruction work, and these receive due precedence in the second plan.

5. Of the total developmental outlay of Rs. 4800 crores, Rs. 2214 crores is shown in the plans of States. As far as possible, programmes which are to be implemented by the States or through them

are included in their plans. In certain fields the allocations in State plans will be supplemented by financial provisions which are at present shown at the Centre, for instance, for the welfare of backward classes, village and small industries and urban water supply and sanitation. The amounts at present included in the plans of States for national extension and community development are provisional. The present provision of Rs. 200 crores will be reviewed shortly in consultation with States and this may necessitate a revision of the present allotment. The size of each State plan is given in Annexure II.

Investment in the Second Plan

6. Of the aggregate developmental outlay of Rs. 4800 crores in the public sector, Rs. 1000 crores represent current expenditure of a developmental nature and Rs. 3800 crores represent investment, that is, outlay on building up of productive assets. Investment in roughly at Rs. 2300 crores. Of this, about Rs. 500 crores is expected the private sector for the period of the second plan is envisaged to be in organised industries and mining. The information available in regard to plantations, private transport and electricity undertakings does not permit anything more than a guess. An allowance of Rs. 100 crores of investment has been made on this account. Investment in agriculture and village and small industries is largely non-monetised in character. This has been kept outside our present estimates. Monetised investment in this sector may roughly be placed at Rs. 300 crores. Construction (houses, shops, schools, hospitals, etc.) may account for as much as Rs. 1000 crores of investment over the five year period. This may be compared with the Taxation Enquiry Commission's estimate of an investment of Rs. 120 crores in urban housing in 1953-54. Finally, in view of the expected increase in the volume of production and economic activity, additional investment in stocks would be called for. This may be taken at Rs. 400 crores.

7. Taking the public and the private sectors together, investment in the economy over the second plan period works out at Rs. 6100 crores—Rs. 3800 crores in the public sector and Rs. 2300 crores in the private sector. A total investment of Rs. 3500 crores was envisaged in the first plan; of this about a half was in the public sector. For the second plan, the total investment envisaged is some 75 per cent. larger than in the first plan, and the ratio of public to private investment works out at 62 : 38.

8. An investment programme of Rs. 6100 crores implies a big effort on the part of the community. If, as is expected, national income over the next five years increases by about 25 per cent, this programme would mean raising the rate of investment in the economy from the present level of about 7 per cent. of national income to nearly 12 per cent. by the end of the second plan. Allowing for a measure of external resources being available to supplement domestic savings, the latter will have to rise from the current level of about 7 per cent of national income to more than 10 per cent by the end of the plan.

TARGETS OF PRODUCTION AND DEVELOPMENT

9. The principal targets of production and development to be achieved over the second plan period as a result of the investments proposed both in the public and private sectors are set forth in Annexure III. Briefly, the plan envisages an increase in agricultural output by about 18 per cent. The production of foodgrains is to increase by 10 million tons or 15 per cent. and somewhat larger increases are expected in the case of cotton (31 per cent), sugar (28 per cent) and oilseeds (27 per cent). At the end of the plan the consumption of foodgrains will, as a result, increase to 18.3 oz. per adult as compared to 17.2 oz. at present and the consumption of sugar to 1·75 oz. (in terms of raw sugar) from 1·4 oz. The national extension and community development programmes will be extended so as to cover a total population of 325 million. Land brought under irrigation will increase by 21 million acres as compared to an increase of 17 million acres in the period of the first plan. The generation of electric power will be stepped up by installation of additional capacity of 3·4 million kW to 6·8 million kW in 1960-61 as against 2·3 million kW at the beginning of the first plan. There will be substantial increases in the domestic production of steel, coal, cement and fertilisers. The output of finished steel is planned to increase from 1·3 million tons in 1955-56 to 4·3 million tons in 1960-61; of coal, from 37 to 60 million tons; of cement from 4·8 to 10 million tons; of nitrogenous fertilisers in terms of ammonium sulphate from 0·4 to 1·6 million tons; and of phosphatic fertilisers in terms of superphosphate from 0·1 to 0·6 million tons. The total output of producer goods in the country is expected to go up by 150 per cent. over the next plan period. Considerable advance is envisaged in education, health, housing, rehabilitation of displaced persons and other social services.

NATIONAL INCOME AND EMPLOYMENT

10. The sum total of these developments is reflected in the movement of national income. The table given below indicates the expected increases in national income during the first and second plan periods.

Net National Product by Industrial Origin

(Rs. crores at 1952-53 prices)

	1950-51	1955-56	1960-61	Percentage increase during 1951-56	1956-61
1. Agriculture & allied pursuits	4450	5230	6170	18	18
2. Mining	80	95	150	19	58
3. Factory establishments	590	840	1380	43	64
4. Small enterprises	740	840	1085	14	30
5. Construction	180	220	295	22	34
6. Commerce, transport and communications	1650	1875	2300	14	23
7. Professions and services including Government Administration	1420	1700	2100	20	23
8. TOTAL NATIONAL PRODUCT	9110	10800	13480	18	25
9. *Per capita income (Rs.)*	255	280	330	10	18

Thus, national income is expected to increase from Rs. 10800 crores in 1955-56 to about Rs. 13480 crores in 1960-61, i.e. by about 25 per cent. This will mean an increase of about 18 per cent. in *per capita* incomes (from Rs. 280 in 1955-56 to Rs. 330 in 1960-61) as against an increase of 10 per cent. over the first plan period (from Rs. 255 to Rs. 280).

11. It will be recalled that the first plan contained an illustrative model of long-term development which envisaged a doubling of national income by 1971-72. The increase in national income over the first plan period has been about 18 per cent. If the rate of increase in national income in the third and subsequent plan periods is of the order of 25 per cent. over five years as in the second plan, it will be possible to double the national income by 1967-68, that is, four years in advance of the time originally estimated.

12. The problems relating to employment pattern and policies and the employment potential of the plan are discussed in Chapter III. Additional employment likely to be generated over the second plan period in sectors other than agriculture is estimated at 8 million. In this estimate only full-time employment has been taken into account. There are in the plan programmes of development such as irrigation and land reclamation which will reduce underemloyment to some extent and may also absorb new persons. In the present socio-economic structure in the rural areas the distribution of a given quantum of work or income cannot be split up as between employment for the underemployed and full-time employment as such.

Agricultural production, as mentioned earlier, is expected to go up by 18 per cent. Considering the substantial increase in employment opportunities outside agriculture, the increase in the number of persons dependent on land may be expected to be relatively small. This suggests a significant increase in incomes and reduction in underemployment in that sector. The promotion and reorganisation of village and small industries along the lines suggested in the plan will provide fuller employment to large numbers of persons engaged in these industries. Altogether, in aggregative terms the plan offers the hope of a sufficient increase in the demand for labour to match the increase in the labour force amounting to 10 million.

FINANCIAL RESOURCES

13. A tentative estimate of financial resources against the outlay of Rs. 4800 crores is given below:—

	(Rs. crores)
1. Surplus from Current Revenues.	800
(a) at existing rates of taxation	350
(b) additional taxation	450
2. Borrowings from the Public	1200
(a) Market loans	700
(b) Small savings	500
3. Other Budgetary Sources	400
(a) Railway's contribution to the development programme	150
(b) Provident Funds and other Deposit Heads	250
4. External Assistance	800
5. Deficit Financing	1200
6. Uncovered gap	400
Total	4800

It will be seen from the above table that about Rs. 350 crores can be made available for the plan out of current revenues at existing rates. Another Rs. 450 crores has to be raised from fresh taxation. Taking the two items together, the surplus from current revenues works out at one-sixth of the total resources required. The railways are expected to contribute about Rs. 150 crores for financing their development programme. Part of this will come from the

increased earnings expected in response to the hightened tempo of activity. Part will have to be found through adjustments in rates and freights. The estimate of Rs. 250 crores under Provident Funds and other debt heads is a projection of the current and expected trends of receipts under these heads.

14. The targets for market loans and small savings have been raised considerably over the performance in recent years. The average level of net receipts by way of market loans from the public has in the last two years been around Rs. 100 crores. The capital market is more responsive now than it was a few years ago. This improvement may be expected to continue and the target of Rs. 700 crores for the plan period is probably not over-optimistic. There are, on the other hand, large maturities amounting to Rs. 430 crores and the task of raising net loans of the order mentioned represents in terms of gross borrowings quite a large programme, especially in the context of a brisk demand for funds for investment in the private sector.

15. The collections under small savings have gone up from a level of Rs. 33 crores in 1950-51 to about Rs. 60 crores in the current year. The target for the plan period is Rs. 100 crores a year on an average. It can be attained, given an intensification of the small savings drive and sufficient follow-up at the district and sub-district levels, reaching down to every family. What is needed is a concerted effort by State Governments and non-official organisations to spread the savings habit to all strata of society. The plan relies upon market borrowings and small savings for providing as much as 25 per cent. of the resources required. Given the limitations in an underdeveloped economy of taxation as such or by way of profits of public enterprises, the effort to mobilise savings through borrowings from the public has to be correspondingly larger.

16. The total of resources mentioned so far amounts to Rs. 2,400 crores. The problem is to find another Rs. 2,400 crores. Some 50 per cent of this, that is, Rs. 1,200 crores can at the outside be raised through deficit financing. This, of course, is a draft on domestic savings. The fact that a fairly large proportion—25 per cent—of the funds needed for the plan have to be mobilised in this manner reflects the difficulty of increasing the coverage of taxation in the relatively early stages of development. A developing economy requires an increasing money supply and, up to a point deficit financing is safe and even necessary. But, beyond a point, deficit financing is inflationary. Reliance on this mode of raising resources to the extent proposed involves considerable risk. This has to be undertaken in the interest of development, but there must be readiness on the part of the community and the public authorities to adopt the necessary safeguards, correctives and controls as the situation may require.

17. In the nature of things, external resources that may become available to supplement domestic savings cannot be estimated in advance. In the first plan period, these resources have averaged Rs. 40 crores a year. As compared to this an average of Rs. 160 crores a year proposed in the scheme of financing presented above represents a large increase, even allowing for the newer form of trade credits for steel plants or other industrial undertakings. But, Rs. 800 crores represent the order of requirements. A plan which accords high priority to industrial development has necessarily a large foreign exchange component. As will be seen later, the gap in foreign exchange resources over the five year period works out at Rs. 800 crores after providing for a reasonable drawing down of the country's foreign exchange reserves and for net private foreign investment. External assistance of the order of Rs. 800 crores is not beyond the range of practical possibilities in terms of the surpluses available in more developed countries for investment abroad.

18. There still remains a gap of Rs. 400 crores. This has to come from domestic savings. It is not possible to indicate at this stage how this amount is to be raised. *Prima facie*, the task is exceedingly difficult. The plan is, as stated earlier, a broad framework, and within it concrete programmes for each year will be worked out. There will thus be a continuous review of needs and requirements. Uncertainties as to financial resources, supply of basic materials like steel and of equipment to be imported from abroad are among the factors to be taken into account through annual plans within the five year framework.

19. The strain on financial resources implied in the plan is perhaps too obvious to be stressed further. Clearly, the plan can be implemented fully only with commensurate effort. Not only must domestic resources be raised in the measure indicated above; there must be a readiness to make good, to the extent possible, any shortfall in the availability of external resources. An adequate tax effort is of vital importance in this context. Resources have to be saved for implementing the programme of investment, and taxation is about the most effective and equitable way of securing the required savings. It has its limits, but additional taxation of Rs. 450 crores over the five year period is by no means excessive either in relation to possibilities or of needs. Developmental planning with large programmes in the public sector requires that an increasing proportion of the national income comes into the public exchequer by way of revenues. This proportion is low in India—only a little over 7 per cent. Additional taxation of Rs. 450 crores will raise this proportion only marginally. It has, therefore, to be regarded as the minimum to be achieved. The reliance on non-tax resources in the plan is so large that a failure on the taxation programme is likely

to jeopardise the entire plan. Taxation, it may be added, should not be regarded as merely a means of raising revenues. It has a bearing on some of the basic purposes and objectives of the plan. Additional taxes on factory products may be necessary in order to promote decentralised modes of production. Taxation has also to play a part in reducing inequalities.

20. The Centre and the States are required to share this additional tax effort equally. The lines along which the States have to raise resources have been settled on the basis of detailed discussions with State Governments. The Centre has already implemented some of the recommendations of the Taxation Enquiry Commission and the necessary further action has to be taken. The States have also to strive to their utmost to raise resources upto the targets accepted more or less along the lines suggested by the Taxation Enquiry Commission. With the large capital commitments both at the Centre and in the States, revenue deficits which imply borrowing to meet recurrent needs, have to be ruled out. In fact, in a developing economy current revenues should make an appreciable contribution to the financing of projects on capital account.

21. The initial effort to find resources for large developments in the public sector is naturally beset with difficulties. But, as public enterprises start bringing in surpluses, the resources for further investment become available in increasing degree. For the community as a whole, the basic decision is as to the quantum of investment to be undertaken. Given this decision, the system has to put forth the surplus needed. The price policy of public enterprises has to be framed with due regard to this aspect of the problem. The socialist pattern of society and the extension of the public sector are not to be regarded merely as ends; they are a part of the means of promoting rapid development. It is only as public enterprises accumulate surpluses for capital formation on an increasing scale that they lay the foundations for a progressive economy.

Foreign Exchange Resources for the Plan

22. The balance of payments position of the country has shown considerable improvement over the last two years. In 1954, the payments position on current account was virtually in balance and a small surplus is expected in 1955. This improvement, in spite of the heightened tempo of development in the country, is a measure of the growing strength of the economy over the first plan period. Nonetheless, the second five year plan, with its substantially larger investment outlay and an accent on the development of basic industries and transport, will necessarily involve a heavy strain on foreign exchange resources.

23. Estimates of foreign exchange earnings and requirements over a period of five years cannot be made without a large margin of uncertainty. Several of the important Indian exports such as jute goods and manganese are subject to sharp fluctuations in demand. Most of India's exports including tea, jute and cotton textiles have to reckon with increasing competition from other countries. An unfavourable turn in the monsoon is apt to necessitate large imports of foodgrains. Even in regard to imports directly needed for the development programmes in the plan, availability of key materials such as steel from abroad can by no means be reckoned as certain. What can be indicated at this stage, therefore, is only a tentative assessment of the foreign exchange requirements of the plan and the problems involved in financing these requirements.

24. On a preliminary view of requirements and likely earnings, it would appear that the balance of payments on current account would show a total deficit of Rs. 1100 crores over the next plan period. This deficit of Rs. 1100 crores has to be covered by external resources, including net private foreign investment and withdrawal from the accumulated foreign exchange reserves of the country.

25. The estimate of a total current account deficit of Rs. 1100 crores over five years is based on detailed calculations of expected earnings and requirements. A number of assumptions had to be made in making these calculations. The major steps and assumptions involved are as follows:—

(a) Imports of machinery and equipment for implementing the plan in the public and private sectors are estimated at Rs. 1350 crores;

(b) Imports of iron and steel will average between 15 and 16 lakh tons in the first four years of the plan, with imports virtually disappearing in the final year;

(c) Total imports of foodgrains over 5 years will be of the order of 4 million tons, i.e. more or less at the same average annual rate as in the last two years;

(d) Imports of sugar will not exceed on an average one lakh tons per year: and those of raw cotton will run at about the present rate on an average;

(e) Taken together, imports of intermediate products such as chemicals, dyes and colours, paper and paste-board and mineral oils will not increase significantly beyond the presest level in spite of increased requirements;

(f) In view of the overall shortage of foreign exchange, commercial and fiscal policy will be directed to preventing any material increase in the import of manufactured consumer goods such as textiles, food products, electrical goods, cutlery etc.;

(g) Exports of cotton textiles will increase progressively from some 814 million yards in 1954-55 to between 1100 and 1200 million yards in 1960-61;

(h) There will be a sizeable increase in the exports of iron ore, manganese, scrap and oilseeds;

(i) Exports of tea will increase only marginally and those of jute goods will run, on an average, somewhat below the level in 1954-55;

(j) There will be a significant expansion in exports in the case of some of the newer products like sewing machines, bicycles, electric fans and general engineering goods;

(k) On an average, the terms of trade over the next plan period will be as favourable as in 1954-55;

(l) The net earnings on invisible account during the second plan period will be somewhat below the current rate.

26. Imports of machinery and equipment of the order of Rs. 1350 crores will be required in view of the large programmes of industrial and transport development. In the public sector alone the requirements of imported machinery and equipment amount to some Rs. 950 crores. Of this Rs. 425 crores is on account of transport and communications, Rs. 280 crores is in respect of the programmes of industrial development, Rs. 170 crores for irrigation and power projects and the rest for programmes in agriculture and social services. The estimated requirements of Rs. 400 crores of imported machinery and equipment for the private sector relate mainly to programmes of industrial development.

27. Imports of essential commodities such as foodgrains and sugar have already been reduced considerably over the last few years. With the continuing emphasis on agricultural development, it should not be necessary to increase imports of agricultural commodities above the present level except in the event of unfavourable monsoons. Should such circumstances arise, it may become necessary to obtain substantial imports of food and other agricultural products from abroad. In the present circumstances of large surpluses of such commodities abroad, it should not be difficult to secure the necessary imports.

28. The second five year plan provides for a sizeable increase in the production of intermediate products such as chemicals and dyes and colours in the country. It is assumed that it will, therefore, be possible to meet the increasing requirements of these products without any significant increase in imports.

29. Every effort has to be made to promote exports in view of the large foreign exchange requirements of the second five year plan. The range of India's exports at present is narrow; but it is desirable to nurture and develop markets for exports such as jute, tea, cotton textile, ores and oil-seeds. In the case of the newer exports of miscellaneous consumer goods and engineering products, earnings from exports are only of a small order at present and sizeable increase in export earnings from these commodities in absolute terms cannot be expected in the short run. Nonetheless, it is important that a beginning is made with the diversification of our exports as the industrial base of the economy expands.

30. The assumption that terms of trade over the next plan period will be as favourable as in 1954-55 is somewhat optimistic in the light of later trends. There has already been a setback from the 1954-55 level. Tea prices, in particular. have fallen sharply over the last year. The significance of the terms of trade can be seen from the fact that even a 10 per cent increase in import prices or a 10 per cent reduction in export prices means an additional foreign exchange burden of Rs. 60 to 80 crores in a single year.

31. The second five year plan provides for an expansion of tourist facilities in the country and earnings from tourism may be expected to increase progressively. But considering the increase in trade, the larger volume of foreign investment and a possible withdrawal from sterling balances, the net earnings on account of invisible items such as freights, interest and dividends are expected to be somewhat below the current rate.

32. The estimated deficit of Rs. 1100 crores on current account can be financed to the extent of some Rs. 200 crores by a withdrawal from the accumulated sterling balances of the country. If these balances are drawn down to the extent of Rs. 200 crores over the next plan period, they would fall to approximately Rs. 500 crores at the end of the plan. Reserves of this order would then correspond to about 7 months' imports and should be regarded as essential for enabling the country to tide over temporary balance of payments difficulties.

33. Credit may also be taken for a net inflow of private capital of about Rs. 100 crores over the next plan period. During the 5½

years ending December, 1953, private foreign investment in the country increased by Rs. 132 crores, but some Rs. 60 to Rs. 70 crores of this represented re-investment of profits earned within the country. The net inflow of private capital during the period thus works out to about Rs. 70 crores. It is reasonable, therefore, to expect a net inflow of private foreign capital of the order of Rs. 100 crores over the second plan period.

36. The gap of Rs. 800 crores in foreign exchange resources which remains after taking credit for net private foreign investment and withdrawal from accumulated sterling balances can only be bridged by external assistance from international agencies and assistance obtained on a government to government basis. India is receiving external assistance at present from a number of countries and the International Bank. The strength that the Indian economy has acquired over the last few years has added to the capacity of the country to service foreign loans. There are considerable prospects for obtaining trade credits for some of the bigger projects of industrial development. Programmes abroad for disposal of agricultural surpluses offer an opportunity for a greater flow of assistance. All these factors add up to a reasonable prospect of external assistance being available on a larger scale than in the past. Nonetheless, this is a field where the uncertainties in the estimation of foreign exchange requirements and in the availability of external resources necessitate a periodic and continuous review of needs and possibilities. In any case, the accent of policy has necessarily to be on maximising export earnings and economising to the utmost on imports. The need to keep down inflationary pressures and prevent the emergence of excessive domestic demands which would react adversely on the country's foreign exchange resources is paramount in this context.

ANNEXURE I

PLAN OUTLAY BY MAJOR HEADS OF DEVELOPMENT

	First Five Year Plan		Second Five Year Plan	
	Total Provision (Rs. Crores)	Percent	Total Provision (Rs. Crores)	Percent
I. Agriculture and Community Development	*372*	*16*	*565*	*12*
(a) Agriculture *	282	12	365	8
(b) National Extension and Community Development . . .	90	4	200	4
II. Irrigation and Power . . .	*661*	*28*	*898*	*18*
(a) Irrigation and Flood control .	395	17	458	9
(b) Power (including small town and rural electrification programmes) .	266	11	440	9
III. Industries and Minerals . . .	*179*	*7*	*891*	*19*
(a) Large-Scale Industries, Scientific Research and Minerals . . .	149	6	691**	15
(b) Village and Small-Scale Industries	30	1	200	4
IV. Transport and Communications . .	*556*	*24*	*1384*	*29*
(a) Railways	268	12	900	19
(b) Roads and Road Transport Schemes	146	6	265	6
(c) Shipping, Ports and Harbours and Inland Water Transport . .	58	2	100	2
(d) Post and Telegraphs, Civil Aviation, Broadcasting and other Communications . . .	84	4	119	2
V. Social Services, Housing and Rehabilitation	*547*	*23*	*946*	*20*
(a) Education	169	7	320	7
(b) Health (Including water supply and sanitation programmes) .	140	6	267	6
(c) Labour and Labour Welfare, Welfare of Backward classes and Scheduled Tribes and Social Welfare	39	1	149	3
(d) Housing	63	3	120	2
(e) Rehabilitation	136	6	90	2
VI. Miscellaneous	*41*	*2*	*116*	*2*
TOTAL .	*2356*	*100*	*4800*	*100*

* Includes provision for local development works also.

**This excludes the provision for the expansion of the Chittaranjan Locomotive Works, the Integral Coach Factory and the Indian Telephone Industries which is shown under IV. The provision for the National Industrial Development Corporation (NIDC) and other finance corporations and for direct assistance to industries is included here.

ANNEXURE II

STATE PLANS

(Rs. crores)

State	Proposed Plan Outlay
Andhra	116·2
Assam	56·4
Bihar	192·9
Bombay	264·4
Madhya Pradesh	123·3
Madras	170·3
Orissa	97·3
Punjab	126·2
Uttar Pradesh	248·6
West Bengal	152·5
	1548·1
Hyderabad	100·0
Madhya Bharat	66·5
Mysore	78·0
Pepsu	36·1
Rajasthan	96·8
Saurashtra	47·6
Travancore-Cochin	71·2
Jammu & Kashmir	33·1
	529·3
Ajmer	7·8
Bhopal	14·3
Coorg	3·7
Delhi	17·5
Himachal Pradesh	14·7
Kutch	7·8
Manipur	6·2
Tripura	8·5
Vindhya Pradesh	24·7
	105·2
Andaman & Nicobar Islands	5·0
North East Frontier Agency	9·5
Pondicherry	4·7
	19·2
Centre's share of D.V.C.	12.2
TOTAL	2214·0

ANNEXURE III

TARGETS OF PRODUCTION AND DEVELOPMENT

		1950-51	1955-56	1960-61	Percentage increase in 1960-61 over 1955-56
		1	2	3	4
I. *Agriculture*					
1. Foodgrains	(million tons)	54·0*	65·0	75·0	15
2. Cotton	(„ bales)	2·9	4·2	5·5	31
3. Sugarcane—raw gur	(„ tons)	5·6	5·8	7·4	28
4. Oilseeds	(„ tons)	5·1	5·5	7·0	27
5. Jute	(„ bales)	3·3	4·0	5·0	25
6. National Extension Blocks	(Nos.)	Nil	500	3,800	660
7. Community Development Blocks	(Nos.)	Nil	622	1,120	80
8. Population served by National Extension & Community Development programme	(million persons)	Nil	80	325	306
9. Village Panchayats	(Thousand Nos.)	83	118	200	70
II. *Irrigation and Power*					
1. Area irrigated	(million acres)	56	67	88	31
2. Electricity (installed capacity)	(million kW)	2·3	3·4	6·8	100
III. *Minerals*					
1. Iron ore	(million tons)	3·0	4·3**	12·5	191
2. Coal	(million tons)	32·3†	36·8†	60·0†	63
IV. *Large-scale Industries*					
1. Finished steel	(million tons)	1·1	1·3	4·3	231
2. Pig iron (for sale to foundries)	(million tons)	..	0·38	0·75	100
3. Aluminium	(000 tons)	3·7	7·5	25·0	233
4. Heavy steel castings for sale	(000 tons)	Nil	Nil	[illegible]	
5. Heavy steel forgings for sale	(000 tons)	Nil	Nil	12	..
6. Steel structural fabrications	(000 tons)	N.A.	180	500	178
7. Machine Tools (graded)	(Value in Rs. lakhs)	31·8	75	300	300
8. Cement Machinery	(do.)	N.A.	75	200	166

(*) Relates to the year 1949-50

(**) Relates to the calendar year 1954

(†) Figures relate to calendar years.

		1	2	3	4
9. Sugar Machinery . .	(value in Rs. lakhs).	N.A.	50	250	400
10. Textile Machinery (Cotton & Jute) . . .	(do.) . .	N.A.	410	1,950	376
11. Paper Machinery . .	(do.) . .	Neg.	Neg.	400	..
12. Power Driven Pumps—Centrifugal . . .	(000 Nos.) . .	34	40	86	115
13. Diesel Engines . .	(000 H.P.) . .	N.A.	100	205	105
14. Automobiles . .	(Nos.) . .	16,500	23,000	57,000	147
15. Railway Locomotives .	(Nos.) . . .	3	170	300	76
16. Tractors . .	(Nos.) . .	..	..	1,600	..
17. Cement . . .	(million tons) .	2·7	4·8	10	108
18. Fertilizers :					
(a) Nitrogenous (in terms of Amm. Sulphate) .	(000 tons) . .	46	380	1,600	321
(b) Superphosphate .	(000 tons) . .	55	100	600	500
19. Sulphuric Acid . .	(000 tons) . .	99	160	450	171
20. Soda Ash . . .	(000 tons) .	45	80	250	213
21. Caustic Soda . .	(000 tons)	11	35	120	243
22. Petroleum Refinery—Liquid Petroleum Products	(million gallons) .	..	750	895	20
23. Electric Transformers 33 KV and below . .	(000 KVA) .	179	520	880	69
24. Electric Cables (ACSR Conductors) . .	(tons) . .	1,420	9,000	15,000	65
25. Electric Motors .. .	(000 H.P.) . .	99	240	600	150
26. Sugar . . .	(million tons) . .	1·1	1·7	2·3	35
27. Paper and Paper Board .	(000 tons) . .	114	180	350	94
28. Bicycles (Organised sector only)	(000 Nos.) . .	101	500	1,000	100
29. Sewing Machines (Organised sector only) . .	(000 Nos.) . .	33	90	220	144
30. Electric Fans . .	(000 Nos.) . .	194	275	450	64
V. *Transport and Communications.*					
(a) Railways:					
(1) Passenger train miles .	(millions) . .	95	108	124	15
(2) Freight Carried .	(million tons) . .	..	120	162	35
(b) Roads :					
(1) National Highways	(000 miles) .	11·9	13·0	13·6	5
(2) Surfaced Roads .	(000 miles) .	97·0	102·0	111·0	9
(c) Shipping :					
1) Coastal & Adjacent .	(Lakh GRT) .	2·2	3·2	4·3	34
(2) Overseas . .	(Lakh GRT) . .	1·7	2·8	4·7	68
(d) Ports :					
Handling capacity .	(million tons) . .	2	26	33·8	30

	1	2	3	4
(*e*) Post & Telegraphs :				
(1) Post Offices . . (000 Nos.) . .	36	53	73	38
(2) Telegraph Offices (000 Nos.) . .	3·6	5·1	6·5	27
(3) Number of telephones . . (000 Nos.) . .	168	265	450	70
VI. *Education*				
1. School-going children as percentage of children in the respective age groups :—				
(*a*) Primary Stage (6—11 age group) . .	42·0	50·0	60·0	
(*b*) Middle Stage (11—14 age group) . .	14·0	17·0	19·0	
(*c*) High/Higher Secondary Stage (14—17 age group)	6·4	9·0	10·0	
2. Elementary/Basic Schools (lakhs)	2·23	2·83	3·48	23
3. Teachers in Primary/Middle Secondary Schools (lakhs)	7·4	9·7	12·1	25
4. Teachers Training Institutions (Nos.) . .	835	885	1,080	22
5. Enrolment in Teachers Training Institutions (000 Nos.) . .	75·6	91·0	111·4	22
VII. *Health*				
1. Medical Institutions . (000 Nos.) . .	8·6	10	12·6	26
2. Hospital beds . . (000 Nos.) . .	113	125	155	24
3. Doctors . . . (000 Nos.) . .	59	70	80	14
4. Nurses . . . (000 Nos.) . .	17	22	31	41
5. Midwives . . (000 Nos.) . .	18	26	32	23
6. Nurse-Dais & Dais . (000 Nos.) . .	4	6	41	583
7. Health Assistants and Sanitary Inspectors . . (000 Nos.) . .	3·5	4	7	75

CHAPTER III

EMPLOYMENT ASPECTS OF THE PLAN

THE employment situation, as revealed by employment exchange statistics, began to show an uneasy trend by the time the first five year plan was half way through. The plan had, therefore, to be strengthened during 1953-54 by the inclusion of some labour intensive schemes. Even so, the employment position worsened to some extent during the period of the plan, the number on the live registers of employment exchanges rising from 3·37 lakhs in March 1951, to 5·22 lakhs in December 1953 and further to 6·92 lakhs in December 1955. As an indicator of unemployment trends these data suffer from limitations which are well known. There has, however, been increasing realisation that if plans of economic development are to evoke sufficient response, employment must be one of the central objectives. It is therefore a matter of common agreement that the second five year plan should have a distinct employment bias.

2. This is not to say that the first plan did not have any impact on employment. In fact, in the last four or five years, there has been progressive expansion in the volume and range of employment both in urban and in rural areas. It is expected that additional direct employment created by the increased levels of activity in the public and private sectors over the five-year period would be of the order of 4·5 millions. This estimate, however, excludes additional employment in fields such as trade, commerce, etc. The main reason for deterioration in the employment situation is that the additional job opportunities planned for were not sufficient in relation to additions to the labour force during the period of the plan. The major impact of the first plan, moreover, has been in rural areas, where agricultural development and large scale construction activity, in addition to providing full-time employment, has relieved to some extent the prevailing under-employment. This improvement is not reflected in the statistics provided by employment exchanges, since their coverage is mainly urban in character.

3. The task to be faced during the second five year plan in the field of creation of employment opportunities is three-fold. Firstly, there are the existing unemployed in the urban and rural areas.

Secondly, there is the increase in the labour force which is estimated at about 2 million persons per year, and lastly, the under-employed in rural occupations and those engaged in household occupations in urban areas have to be provided with increased work opportunities. In seeking remedies for this three-fold problem, it is necessary not only to view the employment situation in the aggregate, but also in its urban and rural aspects. There are some regions in the country, both urban and rural, where the employment situation is more acute than in others. While assessing the size of the problem, therefore, it is necessary to take into account its magnitude in urban and rural sectors in different regions of the country.

4. The employment surveys which were undertaken during the first plan period revealed that in urban areas about 8 to 10 per cent of the employable population or roughly 2·5 million persons were unemployed. Preliminary surveys undertaken in urban areas by the National Sample Survey have placed the magnitude of urban unemployment at 2·24 millions. The surveys have also suggested a relationship between the number unemployed and the data provided from time to time by the employment exchanges. On the basis of this relationship and the number on the live registers of employment exchanges, as at the end of 1955, it would appear safe to suggest that the urban backlog of employment seekers is of the order of 2·5 millions.

5. To this backlog is to be added the number of new entrants to the urban labour force. It is expected that this will increase by about 3·8 millions in the next five years. In arriving at this figure it has been assumed that in the decade 1951-61 the urban population will increase by 33 per cent. This rate of urbanisation is somewhat higher than that of the decade 1931-41 (31%), but is lower than the rate for the decade 1941-51 (40%). The rate of urbanisation during the decade 1941-51 was unusually high because of war and Partition. It is reasonable to assume that a smaller rate will prevail during 1951-61 in view of improvements in rural conditions and the emphasis given to the development of a decentralised sector in the economy.

6. In rural areas it is difficult to distinguish unemployment from under-employment. The task of providing employment opportunities in these areas has to be measured by and large in terms of additions to incomes. Nevertheless, some sections of the agricultural population such as agricultural labourers, especially those without land and rural non-agriculturists without employment, have as great a significance in the context of unemployment as the urban

unemployed. On the basis of the Agricultural Labour Enquiry, 1950-51 and other data available, it is estimated that in rural areas there are about 2·8 million persons who may be described as unemployed.

7. As stated earlier, the total number of new entrants to the labour force has been assumed to be 10 millions during the period of the second plan. Deducting from it the estimated 3·8 millions accruing to the labour force in the urban areas, new entrants to the rural labour force in 1956-61 may be 6·2 millions.

8. The following statement shows at a glance the number of jobs or job-opportunities which will have to be created if unemployment is to be completely eradicated during the second plan period:—

Figures in millions

	In urban areas	In rural areas	Total
For new entrants to labour force . . .	3·8	6·2	10·0
For back-log of unemployed . . .	2·5	2·8	5·3
TOTAL . .	6·3	9·0	15·3

It has to be emphasised that these figures indicate the size of the problem to be tackled apart from the additional job opportunities required in the country for persons who are under-employed. While, as a result of the greater tempo of development and the attention given to rural areas, under-employment may be relieved to some extent, there are areas in the country where rural family incomes appear to be so low that they will need special programmes. These areas are being studied with a view to suggesting suitable steps for improving the employment situation there.

9. An attempt has been made to assess the employment content of the second five year plan in the light of considerations set out in the foregoing paragraphs. The total outlay in the public sector is estimated to be of the order of Rs. 4,800 crores, of which Rs. 3,800 crores represent investment. In addition, investment in the private sector is expected to be of the order of Rs. 2,300 crores. It has been possible to work out the additional employment likely to be generated by the plan, on the basis of employment data supplied by the States and the Central Ministries and on the basis of physical

targets proposed for the private sector with certain assumptions regarding productivity increases. The results of the study are summarised in the statement below:—

(Figures in lakhs.)

Estimated Additional Employment

1. Construction	21·0*
2. Irrigation & Power	0·51
3. Railways	2·53
4. Other Transport & Communications	1·80
5. Industries & Minerals	8·00
6. Cottage & Small-scale Industries	4·50
7. Forestry, Fisheries, N.E.S. and allied schemes	4·13
8. Education	2·60
9. Health	1·16
10. Other Social Services	1·42
11. Government Services	4·34
TOTAL (1-11)	51·99
12. Plus 'others' including trade and commerce @52% of total	27·04
GRAND TOTAL**	79·03 or say 80

10. These estimates have to be judged in the context of the objective of the second five year plan of providing employment opportunities outside agriculture on an adequate scale. Even if existing unemployment were to remain unchanged, 10 million jobs require to be created for this purpose. But, of the 10 million new entrants to the labour force a large number will be among families

* The detailed break-up of construction employment under different developmental sectors is a ollows —

Name of Sector	Estimated additional employment in construction
1. Agriculture & Community Development	2·66
2. Irrigation & Power	3·72
3. Industries & Minerals (including cottage & small-scale industries)	4·03
4. Transport & Communications (including Railways)	1·27
5. Social Services	6·98
6. Miscellaneous (including Government service)	2·34
TOTAL	21·00

**The estimate of construction employment may prove to be somewhat on the high side, but employment under 'others' including 'trade and commerce', may be an under-estimate. It is felt, however, that on balance the estimate of 8 million new employment opportunities in the non-agricultural sector should not be far out.

depending on land. In regard to such persons, as has been pointed out earlier, the quantum of additional work has to be measured not in terms of jobs, but in the form of additional income accruing to them. For instance, on account of irrigation provided during the plan period, it may be reasonable to assume that of the additional acreage irrigated, about 30 per cent. will provide, to the new entrants to the labour force, opportunities of work on a full-time basis according to rural standards. On this assumption about 1·6 million new entrants to the labour force in rural areas may be regarded as securing employment in agriculture. The balance of the irrigation facilities provided will account for relieving under-employment in agricultural pursuits. In addition, one has to take into account the fuller employment opportunities provided by schemes under the village and small industries programme. Viewed in this light the results of the plan in terms of employment are likely to be significant, but the problem of unemployment will continue to require a great deal of attention.

11. It will be useful at this stage to compare the overall direct employment estimates during the first and the second five year plans. It has been stated that the direct employment generated during the first five year plan would be of the order of 4·5 millions. With almost double the size of the developmental effort, additional direct employment during the second five year plan is not likely to be much higher. This is because the 'step up' in developmental expenditure during the second plan period is not expected to be much larger than that achieved during the first plan period. In the last year of the first plan developmental outlay in the public sector is expected to be higher than the corresponding amount in 1950-51 by about Rs. 400 crores. It is likely that as compared to the last year of the first plan, the increase in the developmental outlay in the last year of the second plan will be of the order of Rs. 600 crores. In addition, it is clear from the pattern of investment described in Chapter II that a much larger expenditure is contemplated on transport and industries, and in the immediate future these have a relatively smaller employment content. It is, therefore, not surprising that direct additional employment generated over the second plan period may not be much higher than the corresponding increase in the first plan period.

12. Apart from the general problem of unemployment and its regional characteristics, there is the specific problem of educated unemployed, which requires special consideration. To assess the magnitude of the problem and to suggest suitable remedies, the Planning Commission appointed a Study Group which has submitted its report recently. According to its estimates, which have been based on the analysis of employment data available in the country, the volume of

unemployment among educated persons above the matriculation standard is at present in the neighbourhood of 5·5 lakhs. The Group has further estimated that during the period 1956-61 another 14·5 lakhs of such persons will enter the labour market. Complete eradication of educated unemployment, would, therefore, require the creation of 2 million job opportunities during the second plan period. It is obvious that the 2 million job opportunities required have some significant regional aspects. For instance, it is recognised that the problem exists in a more acute form in areas like West Bengal and Travancore-Cochin.

13. The job opportunities which are likely to be created by the second plan for educated persons should be considered against this background. On the analysis of data supplied by State Governments, the Study Group came to the conclusion that the existing programmes would provide employment opportunities for about 14·4 lakhs of persons. It, therefore, felt that unless some additional schemes specifically designed for the relief of educated unemployed persons were taken up, the magnitude of the outstanding problem would remain more or less unchanged. The Group has, therefore, recommended an outlay of Rs. 130 crores on schemes for setting up small-scale industries and co-operative goods transport. It has also recommended some other schemes drawn up by State Governments for the educated unemployed. It has been reckoned by the Group that if these recommendations are given effect to, 2·4 lakhs of additional jobs for the educated would be available. It is proposed that a beginning should be made on a pilot basis during the next year in the directions suggested by the Study Group. This will indicate how far educated persons take advantage of and can be assisted in utilising the opportunities which the special programmes proposed by the Group will bring into existence.

14. The question of educated unemployed cannot be viewed in purely quantitative terms in the manner the problem of general unemployment is often thought of. It is perhaps enough to say that a certain number of jobs are required for unskilled or uneducated categories, but when it comes to making a similar statement with regard to the existing educated unemployed, it is necessary to be more specific about the kind of education for which job opportunities are required to be created. The regional and occupational aspects associated with the problem have to be considered separately. Regional immobility among the educated, except at fairly high levels, comes in the way of the fuller utilisation of such personnel. Instances are not wanting where surpluses in certain categories of educated and trained personnel are reported at some employment exchanges, while these very categories are in short supply at others.

In such cases adjustment of supply with demand becomes to a considerable extent a question of providing suitable incentives and opportunities. The other aspect, namely the occupational, requires a considerable amount of advance planning, both in assessing the demand for such personnel and in making arrangements for future supply.

15. In this connection mention may be made of the demand from various regions for augmenting training facilities and the steps that have already been taken for providing them. In the plans of States much attention has been given to the training of personnel which are likely to be in short supply. Technical manpower requirements in different fields for the second five year plan have been studied. Since construction occupies a central place in planning, the assessment of engineering personnel required for this purpose was undertaken by a special Committee appointed by the Planning Commission. In a later chapter a reference is made to the recommendations of this committee.

16. The conclusions which emerge from the fore-going analysis are:—

(a) Even with the larger effort that is envisaged in the second plan, the total volume of unemployment, during the period of the second plan, may be of about the same order as at present;

(b) there will be some addition to the working force in agriculture, but on account of the schemes operating in this field, income per occupied person will increase to the extent of about 17 to 18 per cent; and

(c) in the field of village and small industries, since only full-time jobs have been taken into account for the above calculations, the fuller employment opportunities, as envisaged in the Report of the Village and Small-Scale Industries Committee, will afford some relief to the under-employed.

17. These conclusions suggest that in spite of concerted efforts for the mobilisation of available resources and their optimum utilisation, as proposed in the second plan, the impact on the two-fold problem of unemployment and under-employment will not be as large as the situation demands. There is at the same time a limit to the amount of investment which can be put through over the period of the plan. In the light of the emphasis placed on heavy industries, the scope for varying the pattern of investment is only marginal in character and any further adjustment of priorities may not yield

much larger results in terms of employment. At the same time it is not always possible in the existing state of knowledge, to take into account all the ramifications on employment of investments in heavy industries of the type envisaged in the plan. In this connection it is necessary to stress the importance of implementing the plan so as to maximise its production and employment potential by coordinating complementary investments, planning the use of resources such as water, electricity, etc. which are created by the operation of the plan and ensuring that the services of newly created institutions and agencies are brought effectively within the reach of those whom they are intended to benefit. As the plan proceeds, there should be continuous assessment of the additional employment obtained through its operation, so that suitable steps can be taken to ensure that the targets of employment are realised.

CHAPTER IV

ADMINISTRATIVE TASKS AND ORGANISATION

TASKS IN THE SECOND PLAN

AT the present time the general social and economic outlook which has been evolved in India in dealing with problems of national development embodies a large measure of agreement both on the analysis of problems and on many of the basic questions of policy. On closer examination, differences in judgement are often found to be either differences in perspective or differences in detail. While the area of agreement on matters of policy is considerable, the doubt is frequently expressed whether, in its range and quality administrative action will prove equal to the responsibilities assumed by the Central and State Governments in the second five year plan. It is likely that as the plan proceeds the most difficult issues will relate less to matters of policy and approach, much more to questions of administration and finance. In as much as collection of taxes, spending money and raising small savings are but aspects of the executive functions of government, finance may also be regarded as part of the more general problem of administration.

2. As development goes forward, the expression 'administration' steadily assumes a broader content. It includes within its scope the building up of personnel, training of men, running the administrative machine, seeking the co-operation and paticipation of the people, informing and educating the public and, finally, organising a sound system of planning based as much on the participation of people at each level as on the best technical, economic and statistical information available. If the administrative machinery, both at the Centre and in the States, did its work with efficiency, integrity and with a sense of urgency and purpose, the success of the second plan would be fully assured. Thus, in a very real sense, the second five year plan resolves itself into a series of well defined administrative tasks.

3. In comparison with the first plan, these tasks are much larger in scope; they are also far more complex. Some part of the ground is familiar and represents activities continued from the

past, although on an expanded scale. But there is much that is virtually new for which, in the ordinary course, a longer period of preparation would have been necessary. The principal administrative tasks during the second five year plan could perhaps be classified into certain broad categories:

(1) ensuring integrity in administration;

(2) building up administrative and technical cadres;

(3) organising large-scale training programmes in all fields and mobilising all the available training resources, including public and private institutions, industrial and other establishments, apprenticeship and in-service training;

(4) devising speedy, efficient and economic methods of work, providing for continuous supervision, and arranging for objective evaluation of results at regular intervals;

(5) carrying technical, financial and other aids to small men, as in agriculture, national extension and community projects and village and small industries;

(6) organising efficient management for public enterprises, as in industrial undertakings, transport services and river valley schemes;

(7) securing local community action and public participation so as to obtain the maximum results from public expenditure, as in agriculture and in social services; and

(8) strengthening the co-operative sector of the economy through assistance in managerial and technical personnel and establishment of co-operative, financial, marketing and other institutions.

4. Each of these tasks constitutes a large theme by itself. It was pointed out in the First Five Year Plan that corruption led to wrongs which were difficult to redress and undermined the structure of administration and the confidence of the public in the administration. There must, therefore, be a continuous war against every species of corruption within the administration as well as in public life generally and the methods to root out this evil should be constantly reviewed. A number of positive steps have since been taken both at the Centre and in the States. An enquiry committee has recently examined the subject in relation to the railways who are the largest employers in the country. A number of recommendations have been made and action is being taken. The Ministry of Home Affairs has set up an administrative vigilance division

with which are associated vigilance officers in different Ministries. Similar action would be desirable in the States. Factors which provide opportunities for corruption or malpractices have to be eliminated. Failures have to be watched and investigated and their causes removed. Finally, prompt and stringent action is necessary wherever there is reasonable ground for suspicion. On the question of methods of work it is sufficient here to recall the observations made in the First Five Year Plan and to recommend extension in all States of the type of work begun at the Centre by the Organisation and Methods Division of the Cabinet Secretariat. The importance of developing appropriate institutions and methods by which all Government agencies will effectively serve and aid the small man and ensure that the benefits of public assistance reach those most in need of it must be stressed as a cardinal principle in the implementation of the second five year plan. Two other aspects have to be specially stressed. The first is that delay in dealing with references from non-official organisations and individuals must be reduced to the minimum through systematic supervision and inspection and delegation of responsibility. Secondly, at all levels within the administration an outlook should be developed which will insist on avoiding waste, assessing costs in relation to benefits and ensuring that the country gets the utmost from the expenditure which is undertaken. A few observations may be offered on the other administrative tasks which have been mentioned above.

5. In the First Five Year Plan general questions relating to the reform of public administration were reviewed at length and at the Centre action has been taken on a number of the suggestions which were made. The Planning Commission also examined in some detail questions relating to the administration of district development programmes. With the organisation of the national extension service, district administration has been steadily strengthened. There is also much greater co-ordination in development work at the district level and at the State level. In most States greater reliance is being placed on panchayats as development agencies at the village level. The number of village panchayats is expected to increase from about 83,000 before the plan to about 118,000 in 1955-56. During the second five year plan the number of panchayats is expected to rise to 200,000.

6. An important decision which has been taken by the Government of India is to standardise weights and measures all over the country on the basis of the metric system. At present there is a great diversity in weights and measures used in different parts of the country. Not only do weights and measures differ from one

area to another but even in the same area the units used for different commodities also differ; and often the same terms, for example, maund and seer, represent different weights at different places. Such diversity in weights and measures used for the common transactions of daily life is a source of much confusion and difficulty. The adoption of the metric system of weights and measures would facilitate standardisation both at the national and international level and simplify calculations of diverse kinds. A reform of this character is best undertaken in the early stages of industrialisation. The reform is proposed to be completed in a period of ten to fifteen years. As a first step towards the adoption of the metric system it has been decided to introduce the decimal system of coinage during the second plan period and the necessary legislation has recently been enacted.

Administrative and Technical Cadres

7. No large programme can be successfully executed without the necessary personnel. In every field most of the tasks to be accomplished are long-range in character and each significant problem needs continuous attention over many years. The common tendency is to recruit new personnel on a temporary basis and to carry them over from year to year without giving them reasonable security and satisfaction in achievement. This proves wasteful in manpower resources. It is safe to assume that with planned development of the country's resources personnel requirements will increase in every field. The appropriate course for each authority will therefore be to build up permanent cadres for carrying out its programmes for the second five year plan. This has been done already with obvious advantage in the first five year plan in two outstanding instances, namely, the national extension and community development programme and in the North-East Frontier Agency. Measures to increase the strength of the Indian Administrative Service are already in train.

8. For the implementation of the plan State Governments have been engaged in reviewing their requirements of administrative personnel at different levels. The following are some of the suggestions which emerge from a study of the present situation as reported by States:

(1) The problem of administrative personnel should be viewed in terms of requirements over a sufficiently long period, say, 10 years;

(2) in making estimates of requirements sufficient allowance should be made for the likely expansion of

responsibilities which State Governments will have to undertake and the need to have adequate reserve strength;

(3) increases in the various cadres should be on a relatively long-term and, preferably, permanent basis;

(4) development programmes are placing an increasing burden on the Collector. In order that he should be able to discharge the duties entrusted to him, adequate assistance should be given to him. In particular, it has been observed that the formation of sub-divisions within a district helps both in reducing the amount of routine work falling upon the Collector and in improving the detailed implementation of development programmes; and

(5) training programmes for administrative personnel are being strengthened in most States and now include training in rural development work. There is need, however, for close personal supervision and interest on the part of selected experienced officers in the training of junior personnel during the first few years of service. Greater attention should also be given to methods of training; in this respect there should be continuous exchange of information and experience in States.

9. Experience of the first five year plan bears out the fact that, even in the more developed States, a moderate expansion in the development programmes to be undertaken soon strains the available resources of technical personnel, especially at the higher levels. This applies without exception to all fields of development. In less developed States the situation may sometimes be quite serious; for instance, several departments may be without their Directors or other senior officers. In some Part 'C' States, the chronic shortage of technical personnel, even at lower levels, has been the most important single cause of shortfalls in expenditure and consequent failure to fulfil the targets set by the first five year plan. While some States are in a better position to provide themselves with technical personnel than others, one important lesson of the first plan is that in most fields the average State is not a large enough area for recruitment of personnel of high quality or for organising adequate training or for providing reserves of personnel to cope with continually expanding needs. Recruitment to State cadres has therefore to be supplemented in different fields by one or other of the following arrangements, according as may be found most feasible:

(1) all-India Services, as proposed by the States Reorganisation Commission;

(2) joint development cadres between the Centre and the participating States, as recommended in the First Five-Year Plan; and

(3) cadres organised on a regional basis so as to serve the needs of neighbouring States.

It is proposed to examine this subject further in consultation with the Central Ministries concerned and the States in the light of decisions reached on the Report of the States Reorganisation Commission.

10. There is one field in which good cadres have to be built up almost from the beginning and put through intensive training, namely, village and small industries. In the second five year plan a large sum has been allotted for the development of these industries. This is a measure of the importance attached to village and small industries as an element in the country's economic structure, but adequate organisation is essential if the results hoped for are to be realised.

Public Enterprises

11. In the field of modern industry, finance and trade the role of the public sector is likely to expand rapidly. The programmes of industrial development during the second plan place on the Government responsibility amongst other things for new steel plants, coal mines, heavy machine building factories, fertilizer factories, manufacture of heavy electrical equipment and oil exploration and development. There are also a number of schemes for industrial expansion with which the Government is closely associated. Organisations preparing designs of industrial plant and equipment have to be built up within the Government. Personnel has to be found for assisting development councils appointed for individual industries under the Industries Development and Regulation Act. The creation of the State Bank of India, the nationalisation of life insurance and the proposal to set up a State trading organisation suggest other fields in which the Government is called upon to equip itself with personnel not only for tasks which are to be undertaken immediately but as preparation for larger responsibilities to be shouldered in the future.

12. A proposal to constitute an industrial management pool to provide personnel for industrial undertakings in the public sector has been recently worked out. It is proposed to obtain personnel from within the public services as well as from outside. At lower levels posts are provided for the purpose of training personnel who will be able to assume higher responsibilities at a later stage. In view of the approach to planned development explained in the

first chapter and the programme of industrial and mineral development, which is to be implemented during the second five year plan, the problem of personnel has to be considered from a wider standpoint than has been adopted so far. The proposed management pool should be large enough to meet the principal direct requirements of the Central Government and also to provide higher grades of personnel for Industries Departments in the States whose operations, especially in the field of small, medium and cooperative industries, are likely to grow. In regard to technical personnel there is no proposal at present to constitute any cadre, but the appropriate Central Ministries are examining this question and are estimating their requirements, besides arranging for recruitment and training of the personnel needed by them. The extension of training facilities in business management has considerable bearing on the rate at which the industrial sector can expand. Business administration courses for training junior executives have been recently intitiated at Bombay, Calcutta, Madras and Delhi. It is also proposed to establish an administrative staff college which will bring together senior executives in different fields for study of techniques of organisation and administration. A management association with branches at the principal centres is also expected to be established in the near future.

13. During recent years, for the administration of public enterprises the common practice has been to set up joint stock companies in which Government holds the entire capital. Questions relating to the organisation of public enterprises are under constant review and recommendations on the subject have also been made recently by the Estimates Committee of the Lok Sabha. Issues such as the character of Boards of Directors for Government enterprises and the need for a degree of common management for similar public enterprises are at present under examination in the Ministries concerned. Questions bearing on methods of management and personnel policies in public enterprises need critical and continuous study.

Technical Personnel

14. Requirements of technical personnel have to be determined and provided for well ahead of the stage of implementation of programmes. In assessing requirements sometimes projections of probable demand may have to be made without perhaps sufficiently firm data relating to the programmes to be carried out. In the past serious shortages of personnel were not felt because development programmes were of a limited character. As a result of the progress made during the first five year plan, now there are few fields of development in which personnel shortages do not occur to some extent. During the first plan in several States shortages in skilled personnel have been felt, for instance, among engineers, surveyors,

agricultural specialists, health personnel and trained teachers. Some lack of balance between different regions has also been observed so that, while certain parts of the country report surpluses, elsewhere for the same categories of personnel there may be shortages. Manpower studies bearing on the requirements of the first as well as the second five year plans were begun in the Planning Commission about the middle of 1953 and in some directions early action was taken to expand training facilities. In drawing up proposals for the second plan, all States and Ministries have made estimates of requirements in different categories from year to year.

15. Steps taken to enlarge training facilities for agricultural, forest, veterinary, cooperative and health personnel and for the training of teachers and engineering personnel are briefly reviewed in the appropriate chapters. It is proposed, for instance, to set up 4 new agricultural colleges, 4 veterinary colleges and 6 medical colleges, besides expanding a number of existing institutions. It is, however, in the field of engineering personnel that manpower and training problems in relation to the second five year plan are likely to be specially difficult. Problems in this field are being studied by an Engineering Personnel Committee set up in September, 1955, by the Planning Commission. The committee is making an assessment of shortages of supervisory and higher grades of engineering personnel at the end of the first five year plan and is attempting to estimate the probable requirements for the second five year plan in fields of development such as building and road construction, railways, industrial undertakings in the public and private sectors, mining and irrigation and power.

16. The Engineering Personnel Committee has tried to take a view stretching over several years. After considering existing training facilities and proposals for expansion provided for in the plans of Central Ministries and State Governments, it has made a number of interim recommendations. The more important of these are indicated below :

(1) in addition to the increase in training facilities proposed so far for the second plan, additional training facilities should be established for ensuring a total output of 1,690 engineering graduates and 5,750 diploma holders;

(2) this additional output should be obtained through—

(a) increase in the capacity of existing institutions by 20 per cent. for graduate training and 25 per cent. for diploma training, and

(b) opening of 14 new colleges and 62 engineering schools;

(3) a new class of personnel known as technical assistants who would require a short period of training for specific jobs should be recruited to assist overseers ;

(4) apprenticeships and in-plant training should be organised on a large scale throughout the country in Government as well as in private industrial undertakings;

(5) delays which now occur in recruiting technical personnel in accordance with the requisitions of departments should be reduced. To this end the Union Public Service Commission should be strengthened. The Commission should maintain a register of engineering personnel so that demands for technical manpower can be met as they arise. It would be desirable if personnel requirements of different departments were pooled together and one or two bulk selections made during the year; and

(6) a "high power body", which should be supported by an executive organisation with sufficient authority, should be constituted at the Centre for taking decisions on questions of policy relating to technical manpower. Similar agencies for coordinating supply and demand for technical personnel should be set up by State Governments.

These recommendations are under examination.

17. When considering training programmes for the second five year plan, there is one aspect to which attention may be drawn. The provision of training facilities for higher categories of personnel, whether in engineering and technology or in medicine and agriculture costs a great deal and takes time. If every State has to provide for its training requirements in its own institutions, even apart from the question of financial resources needed, it is apparent that there will be delay in obtaining trained men in the numbers needed. It is therefore necessary that the expansion of existing institutions should receive a higher priority and convenient arrangements should be made in the near future for extending training facilities to neighbouring States which do not have their own training institutions, especially in respect of higher grades of personnel.

Planning Machinery in the States

18. In the course of the first five year plan most States have built up suitable planning units. As a rule they have whole-time or nearly whole-time secretaries in charge of planning and development. Planning secretaries often carry executive responsibilities as Development Commissioners in charge of national extension and community projects, an arrangement which has on the whole worked

satisfactorily. Committees of Secretaries for planning have facilitated coordination between departments. Overall direction is generally given by a special committee of the State Cabinet. Work relating to planning is likely to increase in volume and complexity during the second plan. Hitherto, at the State level, the work of planning departments has largely taken the form of coordination of the work of other departments. To an increasing extent, a planning department will now be concerned with appraisal of the economic and social needs of the State and with financial and material resources, training programmes and other policy aspects of State programmes. Such questions as the level of employment, supply of trained personnel, supply of material resources for implementing the plan, mobilisation of small savings, price trends and the supply of consumer goods will fall more and more within the scope of planning in the States. The preparation of annual plans, improvements in the techniques of planning and the need for more precise reporting and assessment of progress of individual schemes and in different sectors of the State economy will also add to the work of planning departments. In these circumstances it would be desirable for State Governments to take steps to strengthen their planning units. In the second place, statistical and economic staffs in the States should work in close association with planning departments.

Annual Revision of National and State Plans

19. As has been suggested earlier, in considering the economic and social objectives of planned development, it is necessary to take a view extending over a fairly long period, for instance, 15 years. In preparing the second five year plan, as will be seen in the appropriate chapters, in the development of steel and heavy industries, in irrigation and power, in personnel planning and in the planning of education, and in assessing population trends in relation to food supply a view has to be taken of probable requirements or developments over two or three plan periods. Long-term planning affords a perspective which is of great value in achieving balanced development and in judging economic and social trends. For shorter periods, such as a year, there has to be necessarily detailed planning. Plans for five-year periods have to be fitted, as it were, between general long-term plans on the one hand and detailed annual plans on the other. A five year plan helps focus attention on clearly defined tasks for which the resources and energies of the country are to be mobilised. A five year plan has, however, to be conceived and operated in a flexible manner.

20. Flexibility in working a five year plan is a necessity as well as an advantage. In view of uncertainties inherent in imports of

equipment and steel and in foreign exchange and changes in conditions periodical review of a plan is inevitable. To the extent a plan is flexible, it becomes possible to take advantage of new information and experience and to adopt new technological developments. Admittedly, long-term projects and development schemes involve commitments extending over several years and these leave less room for projects which lend themselves to short-term commitments and short-term adjustments. It is proposed therefore that specific and detailed plans should be prepared from year to year within the general framework of the five year plan. This would avoid undue rigidity in implementation and will permit changes which might be needed in the interest of the economy.

21. The changes and adjustments which annual plans will facilitate pertain largely to those sectors of the national plan which are in a special measure the concern of the Central Government, such as industry, minerals, transport and power. To a smaller extent adjustments within the framework of the plan will also be required in the States. A suitable procedure for undertaking a yearly review of State plans has been recently worked out in consultation with representatives of the States.

District Plans

22. In formulating their draft proposals for the second five year plan, State Governments took account of plans which had been prepared for villages, towns and districts. Now that State plans have been broadly determined, it is important that the plans of departments should distinguish programmes which may form part of district plans and those which will continue to be dealt with mainly at the State level. The district has rightly been described as the pivot of the structure of democratic planning. In emphasizing planning at the district level and at other levels within the district, the object is to carry the district and State plans as close to the people as possible, to make these plans a means for solving the pressing practical problems of each local area and, through local community participation and cooperative self-help, to augment the total effort and provide greater scope for local initiative and leadership. Vigorous local planning is essential if the aims of planning along democratic lines are to be realised. A valuable feature of district planning is that it represents an area of common action significant for the welfare of the mass of the people in which differences in views and affiliation are of relatively small consequence.

23. While it is necessary to separate out and assign to districts those parts of programmes in the State plan in which local participation and community action have a special contribution to make,

district planning is not to be regarded as being a matter primarily of pre-determined financial allocations. Its real contribution lies in the method and approach in planning which it represents. At the district level programmes of various departments assigned as mentioned above have to be drawn together, considered against the needs and resources of the district and presented as a set of tasks, undertaken jointly by the administration and the people. The main constituents of such a district plan are:

(1) the community development and national extension programme;

(2) social welfare extension projects;

(3) agricultural production programme and allied activities in the field of rural development such as animal husbandry, soil conservation etc.;

(4) cooperation and village panchayats;

(5) local development works;

(6) programmes relating to social services, especially expansion of education at primary and secondary levels, health units, malaria control, family planning, etc;

(7) schemes to secure more effective utilization of resources developed through—

(i) large schemes, such as irrigation, electricity, roads, road transport, communications, industrial enterprises etc.,

(ii) new training institutions, and

(iii) new services, e.g., for assisting village and small industries, backward classes, etc.;

(8) programme of small savings; and

(9) prohibition work.

24. In most States district development committees have been set up during the first plan. There are some variations in the composition of district development committees in different States. As a rule, representatives of the district board, Members of Parliament and the State Legislature representing the district and leading social workers are included among members of these committees. The form of organisation at the district level which may be found adequate for implementing district plans has to be determined by State Governments with reference to their local conditions. It would appear, however, that the following are among the agencies, individuals or organisations who have to be brought together into some

kind of district development council or committee. Such representative district development councils, working through smaller committees for different areas or subjects, could perform useful functions in relation to the district plan. They could mobilise local opinion in support of development programmes, seek from the people a larger effort in production, small savings and social services, check waste, and try to ensure that the disadvantaged sections of the community benefit in a special measure from programmes which are undertaken in the district:

(i) representatives of the district in the State Legislature and in Parliament;

(ii) representatives in the district of the various departments of Government functioning under the overall direction of the Collector;

(iii) representative municipal bodies in urban areas;

(iv) representative local bodies for rural areas (district boards, and, where they exist, taluka boards) ;

(v) project and block advisory committees in national extension and community project areas;

(vi) representatives of the cooperative movement and non-officials active in the development of village panchayats; and

(vii) representatives of leading social service agencies, like the Bharat Sevak Samaj and others, and constructive social workers.

Public Participation and Cooperation

25. The place of public cooperation and participation in the scheme of democratic planning is well recognised. As was said in the First Five Year Plan, public cooperation and public opinion constitute the principal force and sanction behind India's approach to planning. During the past few years, wherever the people, especially in rural areas, have been approached, they have responded with eagerness. In national extension and community project areas the value of voluntary contributions so far has been assessed at over Rs. 19 crores compared to public expenditure of about Rs. 31 crores. In local development works, in *shramdan* and in social welfare extension projects sponsored by the Central and Social Welfare Boards,

and in the work of voluntary organisations, there has always been willingness and enthusiasm to contribute in labour, and local resources have been made freely available.

26. An under-developed economy has large resources in manpower which are not being fully utilised. These resources have to be used for creating permanent assets. This aim is best achieved when each citizen feels an obligation to give a portion of his time and energy to works of benefit to the community to which he belongs. This is the method of democratic, cooperative growth. One of the central aims of the National Extension Organisation is to organise the systematic use of manpower resources, particularly in rural areas, for works of benefit to the community as a whole. This can be done in a number of ways, for instance, in constructing local works such as village roads, fuel plantations, tanks, water supply and drainage, and maintaining existing minor irrigation works. Where a large work is undertaken, such as an irrigation project, the national extension and community project personnel should take initiative, with the support of non-official leaders, in organising labour cooperatives of villages interested in work on the canal system and connected activities. This is also possible in regard to roads and other projects. Besides inducing a sense of local participation in the projects and augmenting work opportunities, this will enable the local people to benefit by the large expenditure incurred and improve their economic position. By harnessing voluntary effort and local manpower resources, physical targets in the plan can be supplemented in many fields and even greatly exceeded. The second five year plan will provide large opportunities for cooperative action along these lines.

27. Young men and women and students from colleges and schools are taking an increasing share in the tasks of national development. The first five year plan made a special provision for youth camps and labour service. Up to October 1955, at the instance of the Ministry of Education 795 youth camps had been organised in which 66,000 persons participated. These camps create a sense of dignity in manual labour, provide new interests and bring together different sections of the community. Valuable work has been done by the National Cadet Corps which has now a strength of 46,000 in its senior division, 64,000 in the junior division and 8000 in the girls division, besides 3000 teachers and others drawn from educational institutions. The Auxiliary Cadet Corps has now a strength of 750,000. The Bharat Scouts and Guides have a membership of 438,405 scouts and 61,118 guides, which represents an increase of 50 per cent. since the beginning of the first plan. The Bharat Sevak Samaj has organised nearly 500 youth and student camps in which

about 40,000 youth and students have taken part. All these organisations have ambitious programmes of development for the second five year plan. Youth and students have a unique contribution to make to the building of the nation and it is the aim of the plan to give them growing opportunities of service and participation. The Planning Commission has also endeavoured to secure the close association of teachers and students in the formulation of the second five year plan. In response to its suggestions, planning forums are being formed in a number of universities and other institutions to enable teachers and students to consider problems relating to national development and to send their suggestions to the Planning Commission, State Governments and local authorities. Members of planning forums also organise projects for voluntary labour service.

28. As a non-political and non-official organisation set up in pursuance of the first five year plan, the Bharat Sevak Samaj has served as a national platform for constructive work. It has now 31 Pradesh branches and 229 district branches, besides branches in tahsil or taluka towns and in villages. The total membership of persons who have agreed to give five hours of social service during the week now runs to 50,000. In addition to a small number of whole-time employees, the Bharat Sevak Samaj has been able to attract a number of retired and experienced public servants for its programme of work, which now includes social education, health and sanitation, labour cooperatives, work centres, youth and student camps, information centres and cultural activities. Besides implementing its own programmes, the Bharat Sevak Samaj also works in association with other social service organisations. Five of its branches are running welfare extension projects under the scheme of the Central Social Welfare Board. Special arrangements have been made for training camp leaders. Some of the camps have been organised on behalf of education departments and university authorities. A youth organisation named the Bharat Yuvak Samaj has been recently sponsored by the Samaj. Among activities undertaken by the Bharat Sevak Samaj, mention may be made of the construction of 16½ miles of embankment at the Kosi project, work on the Jumna bund, establishment of cooperative societies, assistance in the small savings movement and participation in local development works.

29. In drawing up village plans everywhere the people have taken keen interest and have expressed readiness to shoulder the responsibilities which planning brings. A sum of Rs. 15 crores has been provided in the second plan for local development works and Rs. 5 crores for schemes relating to the organisation of public cooperation. In most programmes there is scope, in varying degrees, for securing greater participation from the people. The fields in which such

participation can make a material addition to resources and can enhance the achievement of physical targets should be specially marked out by the agencies concerned, both at the Centre and in the States, and public cooperation sought in a systematic and continuous manner.

30. It is not only through village groups and voluntary organisations that public cooperation and participation can be promoted. As was suggested in the First Five Year Plan, local authorities, both urban and rural, should be utilised by State Governments as their own agents to the greatest extent possible and, in turn, local authorities should seek the cooperation of voluntary organisations and social workers. Associations representing professional groups such as doctors, lawyers, teachers, technicians and administrators could render much valuable service in promoting community welfare. There have been encouraging signs of association and leadership in welfare programmes on the part of universities, educational institutions and youth associations. These and other possibilities mentioned above have to be developed to the greatest extent possible during the second five year plan.

31. In addition to contributions in the form of work, the small savings movement offers to every citizen an opportunity, according to his means and circumstances, to contribute to the success of the national plan. The scale on which the second five year plan is being undertaken makes it essential that the resources of the community should be mobilised to the fullest extent. Small efforts widely spread can make an immense contribution to the rate at which the national economy develops. The record of small savings during the first plan has been encouraging, but much more has to be achieved during the second plan. It is one of the aims of national extension and community projects to reach every family in the countryside and stimulate savings. Educated men and women all over the country can assist the plan by establishing continuous contact with all families in particular areas and inducing them to contribute regularly to the small savings movement. The work done during the past three years in the womens' savings movement is an example of the kind of effort which can be made everywhere. The support of the small savings movement in a sustained and practical manner should be an important item in the work and activities of every institution and undertaking throughout the country.

Publicity for the Plan

32. Through community participation and the results which have been achieved the first five year plan has reached large numbers of persons. Yet they represent only a small proportion of the popula-

tion of the country. Keeping this in view, the second five year plan has provided a sum of Rs. 7 crores for an integrated publicity programme to be undertaken in cooperation by the Ministry of Information and Broadcasting and the States. The programme includes the setting up of a chain of information centres throughout the country, provision of publicity literature, films, audio-visual aids, organisation of mobile vans, exhibitions, community receiving sets and books and journals. It is proposed to bring out a new journal, to be called, *Yojna* (Plan) which will endeavour to carry to cooperatives and panchayats, voluntary organisations, public servants and non-official workers thoughout the country an understanding of the plan and its aims and values. The nation's plan has a message for each citizen, and everyone has something to give to it.

CHAPTER V

DEVELOPMENT OF CO-OPERATION

CO-OPERATION AND NATIONAL PLANNING

ECONOMIC development along democratic lines offers a vast field for the application of co-operation in its infinitely varying forms. The socialist pattern of society implies the creation of large numbers of decentralised units, both in agriculture and in industry. These small units can obtain the advantages of scale and organisation mainly by coming together. The character of economic development in India with its emphasis on social change, therefore, provides a great deal of scope for the organisation of co-operative activity. The building up of a co-operative sector as part of the scheme of planned development is, thus, one of the important aims of national policy.

2. The limit to the range of activities to which the principle of co-operation can be applied is set by the fact that a co-operative group should be reasonably small for its members to know and trust one another. For certain purposes a number of small groups may, and indeed must, combine into larger organisations, but the strength of co-operation comes from relatively small and homogeneous groups which function actively. If strong primary units exist at the base, effective organisations can also be built at higher levels. The structure as a whole can then undertake activities and provide services which require large resources and organisation. From this aspect the fields which mark themselves out as being specially appropriate for the co-operative method of organisation are agricultural credit, marketing and processing, all aspects of production in rural areas, consumers' co-operative stores, co-operatives of artisans and construction cooperatives. In these fields the objective is to enable co-operation increasingly to become the principal basis for the organisation of economic activity. This implies that new activities should be co-operatively organised and also that by stages existing activities should be taken over by co-operatives.

3. In the areas appropriate to it the co-operative form of organisation has advantages which neither the system of private enterprise nor that of State ownership can match. In particular, it offers a means of achieving results valuable to the community by drawing equally upon incentives which are social and incentives which are individual. Where it succeeds co-operation brings large gains to the community, but the human factors involved in it are

complex and in some ways it is much more difficult for the co-operative form of organisation to succeed than it is for a completely socialistic enterprise or for an individual entrepreneur. It is therefore necessary to take effective measures to enable co-operation to succeed specially in fields which may be assigned to it in the scheme of national development.

4. This aspect has received special attention in the report of the Rural Credit Survey organised by the Reserve Bank of India. Programmes of co-operative development for the second five year plan have been drawn up broadly on the lines recommended in the Rural Credit Survey. Because of historical circumstances agricultural credit accounts for the greater part of development in the field of co-operation during the past fifty years. The provision of adequate credit on reasonable terms is undoubtedly a most important part of co-operation, but the movement has wider and more far-reaching aims. In co-operation the crucial unit is the village. In implementing the programme of co-operation, there are three aspects to which special attention has to be given. Firstly, credit is only the beginning of co-operation. From credit, co-operation has to extend to a number of other activities in the village, including co-operative farming. In co-operation hard and fast rules of development cannot be made and every step is determined by the experience of the people. The second aspect is that every family in a village should be member of at least one co-operative society. The third aspect is that the co-operative movement should aim at making every family in the village creditworthy. At present, even in areas in which the movement has spread most, only 30 to 40 per cent of families are able to satisfy the tests laid down. The primary co-operative society and the village panchayat have to work in unison if the needs of all the families in the village are to be met. In determining the size of the primary society, therefore, it is important that, on the one hand, the society should be large enough to be a viable unit to be able to provide a competent committee of management and, on the other, it should not be so large that the committee of management cannot keep in touch with individual families and undertake their rehabilitation. Co-operatives, like village panchayats, are institutional agencies for achieving social cohesion. In a country whose economic structure has its roots in the village, co-operation is something more than a series of activities organised on co-operative lines; basically its purpose is to evolve a system of co-operative community organisation which touches upon all aspects of life. Within the village community there are sections of the population who need special assistance. Co-operation should therefore mean an obligation towards all families in the village community and the development of land and

other resources and of social services in the common interest of the village as a whole.

Pattern of Village Development

5. The manner in which the village economy is to be reorganised and developed over the next 10 or 15 years is a question of central importance in determining social and economic policies in several fields. For instance, the scheme of land reform, the place of village industries in the rural economy, the organisation of the co-operative movement, relations between urban and rural areas, the role of small-scale industries in the programme of industrialisation and the precise application of the concept of balanced regional development are all intimately related to the pattern of growth of the village economy which is visualised for the future. The community development and national extension programme provides a link between national planning and changes which are sought to be achieved within the rural economy. In this programme the expression 'community' refers specially to the group of families who belong to the social unit called the village. A community project is, therefore, best thought of as a programme for the development in a co-ordinated and planned way of all the village communities comprised in it. It is the social changes and the economic progress which are achieved at the level of the village which provide a true measure for the success of many of the development programmes which are now in progress. The reconstruction of the village along co-operative lines implies, firstly, that a more or less homogeneous social structure in which different sections of the community have equal opportunities is brought into existence, and secondly, that the economic basis of village life is greatly expanded and strengthened. Measures relating to land reform, development of village industries, establishment of village panchayats as well as other programmes have to be considered in relation to these two basic objectives.

6. For all sections in the village community to have equality of status and opportunity, removal of disparities in the ownership of land is doubtless the first step. The protection afforded to tenants and facilities given to them to become owners of the land they cultivate as well as the application of ceilings on individual holdings are steps in the right direction, but they are no more than the first steps. Substantial sections of the village community are without land and without adequate opportunities for work. As economic development proceeds, a growing proportion of the rural population will move to towns to take up new work. Even if employment opportunities in urban areas expand more rapidly than can be anticipated, there will still be very considerable pressure on

land. For the vast majority of potential workers in villages work has to be found on land and in occupations which can be developed in rural areas.

7. One of the most important questions, therefore, to which national planning has to address itself is the manner and the agencies through which new forms of work and service are to be developed within the rural economy. Industrialisation, and specially the development of basic industries, has an extremely important role in accelerating economic progress, but the secondary and indirect effects of industrialisation will not by themselves go far enough in creating and maintaining work opportunities in rural areas for the employment and utilisation of locally available manpower. To the extent a deliberate attempt is made to provide fields for small-scale industries and to locate large industries with due regard to such considerations as the needs of a balanced economy in different parts of the country, the rural problem will be easier of solution. In order that the rural economy may take advantage of opportunities which national policies along these lines may offer, certain changes internal to the village economy have also to be secured.

8. The average village has two main assets, its land and its manpower. In raising the productivity of land through irrigation, national extension and other means conditions are established for expansion in the village economy. But specially favoured areas apart, without reorganisation in the agrarian structure the problem of under-employment in the rural economy will continue to be one of large dimensions. Individual villages have to be brought into the scheme of national development as units of planning. For many purposes groups of villages rather than individual villages will constitute the appropriate planning units. The primary organisation, however, has to be at the village level. This is the reason for setting co-operative village management as the goal of reorganisation for the village economy.

9. Co-operative village management implies, in the first place, that the ownership of land belongs to peasants. With the progress of land reform the number of owners within the village community will increase and disparities in the ownership of land will be greatly narrowed. In the peasant community, apart from artisans and others engaged in non-agricultural activities, there will be a section of the population who will be dependent on agriculture but without being owners of land. Theirs is an important problem to which solution has to be found, specially since, as pointed out earlier, they and many small peasant owners will continue to be

in effect surplus to the rural economy. The second aspect of co-operative village management, therefore, is that it aims at developing the land and resources of the village and creating new employment opportunities from the point of view of the community as a whole. In other words, the community accepts a measure of responsibility for providing opportunities for gainful work in agricultural as well as non-agricultural activities to all persons in the village who are in need of work and are prepared to do whatever work can be made available.

10. To be able to provide a diversity of occupations within and outside agriculture, the village economy itself has to develop new techniques. Rapid technical change, including the utilisation of power and of improved equipment thus becomes a basic factor in further progress. So long as the small holding, often uneconomic and fragmented, remains the unit of *management* in agriculture, the possibilities of expanding the village economy to create adequate diversity and richness in the occupational structure are severely limited. A distinction should be made between the unit of management and the unit of *operation*. Even when a larger area or the village as a whole is the unit of management, for many years, the common unit of operation will be the peasant holding. If the village is the unit for planning, there could be co-operation in many operations such as, the use of improved seed, common buying and selling, in soil conservation, in the use of water, in the construction of local works and so on.

11. During the transition to cooperative village management, lands in the village will be managed in three different ways. Firstly, there will be the individual farmers cultivating their own holdings. Secondly, there will be groups of farmers who pool their lands voluntarily in their own interest into cooperative working units. Thirdly, there will be some land belonging to the village community as a whole. This will include the common lands of the village, the village site, culturable waste lands assigned to the village, lands whose ownership or management is entrusted to the village on the application of the ceiling on agricultural holdings and, lastly, lands which may be given as gifts for the settlement of the landless. Thus, one could visualise within the scheme of land mangement in a village an individual sector, a voluntary cooperative sector and a community sector. The relative proportions between these sectors will be a matter for growth and development as well as positive planning. The aim would be to enlarge the cooperative sector until the management of the entire land in the village becomes the cooperative responsibility of the community. Cooperation in credit, marketing and processing will also further cooperation

in production. These activities are inter-related. Those which are simpler to organise will naturally be taken up first. Cooperation in all forms and in all activities is to be welcomed because the habit and outlook of cooperation is as important as the forms through which it is expressed.

12. While cooperation is the principle of organisation, the agency which provides direction and leadership in the village is the panchayat. The panchayat has important functions in the agricultural programme, in land reform and in land management. The development of panchayats has therefore to be a fundamental item in the programme of national extension and commuity projects. As the functions of panchayats within the village economy grow and the rural people realise the opportunities for raising standards of living which cooperation gives to them, local opinion and leadership will move more rapidly in the direction of cooperative village management than may have seemed likely in the past. Participation in the national extension and community development programme brings a new understanding to the rural people and prepares their minds for change.

13. Once this stage of cooperative village management is reached, the distinction between those who have land and those who are landless loses much of its significance. The true distinction then is between workers with varying skills who are engaged in different occupations, both agricultural and non-agricultural. The resources of the village community derived from agriculture, trade and village industry will be employed in securing the maximum increase in production and employment through action within the village as well as through cooperation in activities extending beyond the village. Such a village community will have an integrated social and economic structure and will be linked organically as a production and business unit with the economic life of the tahsil and the district. Thus, a rural economic structure is visualised in which agricultural production, village industries, processing industries, marketing and rural trade are all organised as cooperative activities. The banking system of the country and, especially the Reserve Bank of India and the State Bank of India and the network of cooperative credit institutions will, undoubtedly, play a large and growing part, and the surpluses of rural areas will be available for the development of the rural economy. While providing such assistance as is needed from the State, from the Reserve Bank of India and other institutions, the aim is to build up a cooperative system in which the village community is the vital social and economic unit and leadership comes from the people. The essential function of cooperative credit, marketing and other institutions

which are to be built up in partnership with the State as recommended in the Rural Credit Survey will be to assist the development on a sound and business-like basis of an expanding cooperative sector on the lines described above.

Development Programmes.

14. During the first five year plan, largely on the initiative of the Reserve Bank of India, several important steps have been taken to reorganise the cooperative movement with special reference to agricultural credit. The co-operative movement now includes 22 State cooperative banks, 499 Central banks and bank unions, 126,954 primary credit societies and 9 Central and 291 land mortgage banks. At the primary level, besides agricultural credit societies, there are 30,306 agricultural non-credit societies, 8,389 non-agricultural credit societies and 21,137 non-agricultural non-credit societies. The primary agricultural credit societies have a total membership of 5·8 million and non-credit societies of 2·7 million.

15. The recommendations of the Rural Credit Survey were accepted by the Reserve Bank of India, the Central Government and by the Indian Cooperative Congress and during the past year action has been taken to implement several of them. The main principle on which the reorganisation of cooperative institutions is based is that of State partnership. The form and degree of such partnership varies at different levels of the structure and for different types of institutions. The Reserve Bank of India Act was amended to enable the Bank to set up a national agricultural credit (long-term operations) fund and a national agricultural credit (stabilisation) fund. State Governments are now in a position to obtain assistance from the Reserve Bank for State participation in share capital in respect of the larger sized credit societies, Central banks, State cooperative banks and Central land mortgage banks on lines proposed in the Rural Credit Survey. Similarly the Central Government will assist States for participating in the share capital of marketing and processing societies and construction of storage godowns.

16. The conference of Ministers in charge of Cooperation in the States which met in April 1955 to consider the report of the Rural Credit Survey proposed that the long-term goal should be the reorganisation of rural business on a cooperative basis in such a way that within 15 years 50 per cent. of the total business, including credit, marketing, processing, etc., comes within the cooperative sector. It was proposed that during the second five year plan the active membership of primary agricultural credit societies should be

raised from 5 to 15 million and the amount advanced through the cooperative movement is short-term loans from Rs. 30 to 150 crores, as medium-term loans from Rs. 10 to 50 crores and of long-term loans from Rs. 3 to 25 crores.

17. Development programmes for cooperation for the second five year plan have been drawn up in consultation between the Central Government, States and the Reserve Bank of India. The principal targets in the cooperative programme, which have been worked out in detail for each State, are as follows:

Credit	
Number of larger sized societies	12,000
Target for short term credit	Rs. 150 crores.
Target for medium term credit	Rs. 50 crores.
Target for long term credit	Rs. 25 crores.
Marketing and Processing	
Number of marketing societies to be organised	1,700
Sugar factories	36
Cotton gins	77
Other processing societies	112
Warehouses and Storage	
Warehouses of Central and State Corporations	350
Godowns of marketing societies	1,700
Godowns of larger sized societies	5,000

For achieving these targets, apart from the contribution which the Reserve Bank will make, the plan provides for a total amount of about Rs. 48 crores.

18. The Ministry of Food and Agriculture has prepared draft legislation for setting up Central and State warehousing corporations in accordance with the recommendations of the Rural Credit Survey. It is proposed to build up storage capacity of 2 to 2·5 million tons. The Central Warehousing Corporation is expected to establish nearly 100 Warehouses, each having storage accommodation of 10,000 to 20,000 tons or more. State warehousing corporations are expected to construct about 250 warehouses of 2,000 to 10,000 tons of capacity. Tentative locations for warehouses have been determined.

19. In the development of cooperative credit and marketing institutions, as indeed in all aspects of cooperative development, the training of personnel is of the highest importance. For higher co-operative personnel a training centre was set up by the Reserve Bank

at Poona and for training intermediate cooperative personnel three regional cooperative training institutes are at present functioning and two more are shortly expected to be established. For the training of subordinate personnel State Governments have established 21 training institutes and 10 more are shortly expected to be set up. A special scheme for training block level officers to work in national extension and community projects has also been undertaken.

20. This brief review of steps which have been taken since the Rural Credit Survey was completed suggests that cooperation has now entered upon an active phase of development fully supported by the resources of the Central Government and the Reserve Bank of India as well as by State policy. In the rapid progress of cooperation, large organisational and personnel problems are involved, both for the cooperative departments carrying out the programme and in terms of work at the village level. Cooperation is the vital principle of all rural development. While building up and strengthening institutions at higher levels, cooperative staffs along with national extension workers should give the utmost attention to work with primary societies. The programmes which have been drawn up for the development of cooperation in the States during the second five year plan concentrate mainly on credit and marketing and to a smaller extent on processing. Insufficient attention has been given so far to the programme for cooperative farming. This aspect needs to be reviewed further.

21. In the first plan a number of suggestions for encouraging and assisting small and middle farmers to group themselves voluntarily into cooperative farming societies were offered. These have been reviewed and elaborated by a committee of the Panel on Land Reforms dealing with the reorganisation of agriculture. The committee has suggested that in areas where property rights do not come in the way of establishment of cooperative farming, as in government waste lands which have been reclaimed or are suitable for cultivation and in surplus lands obtained through the application of ceilings on agricultural holdings, settlement should as far as possible be on cooperative lines. In these areas intensive efforts should be made to develop suitable methods for cooperative farm operations and the necessary technical guidance, financial aid and supervision should be made available. Agricultural holdings which are smaller in size than the basic holdings should receive special attention with the object of developing cooperation in all activities.

CHAPTER VI

LAND REFORM

INTRODUCTION

THE lines along which the structure of the rural economy is proposed to be reorganised have been set out in the preceding chapter. Cooperatives and village panchayats are the principal institutions through which such reorganisation is to be carried out as part of national planning. The pattern of organisation to be aimed at has been expressed as cooperative village management. In the process of social and economic change through which this objective is to be attained land reform programmes have a crucial role.

2. Land reform legislation in the States has been confined in the main to adjustments in relations between owners and tenants. While security of tenure has been assured and rents reduced in several States, progress in the transfer of rights of ownership to tenants has been slow. In a number of States difficulties in reconciling the claims of small owners with those of tenants have come to the surface. Very little has been done to provide land for landless agricultural workers and efforts in support of co-operative farming and cooperative village management have been half-hearted and meagre. Invariably the intentions of land reform legislation have not been fulfilled to the extent hoped for because of inadequate administrative action and weakness in organisation at the village level. The work of the Central Committee for Land Reforms, which includes the Planning Commission and the principal Central Ministers concerned, has helped to maintain a broad common approach in land reform programmes in the States, whose attention has been drawn from time to time to gaps in the implementation of land policy and to the need to carry out phased programmes of land reform.

3. With a view to formulating a comprehensive land policy for the period of the second five-year plan, a Panel on Land Reform was set up by the Planning Commission in the summer of 1955. The work of the Panel is being done through four committees dealing respectively with tenancy reform, size of holdings, re-organisation of agriculture and Bhoodan. The detailed programme of land

reform to be implemented during the second plan will be drawn up after the Panel has considered the reports of its committees and made its recommendations.

4. In the first five year plan reference was made to the lack of reliable information concerning the distribution and size of holdings and it was proposed that a census of land holding and cultivation should be undertaken. This census has now been carried out in most States. For 19 States the results of the census have become available; reports from other States are shortly expected. The eighth round of the National Sample Survey included an inquiry into land holdings, the results of which have been presented in a special report. The Rural Credit Survey has also brought out valuable new data. Thus, from the point of view of the information available, it is possible to appreciate more fully the implications of various aspects of policy and to ensure more satisfactory implementation.

Rights of Owners

5. The abolition of intermediary rights has now been completed over the greater part of the country. The multiplicity of tenures has been reduced, although it has not been altogether eliminated. Taking a general view, existing tenures are being modified in respect of two main categories of right holders, namely, (1) owners who hold land directly under the State, and (2) tenants who hold land from owners. It is desirable that a fairly uniform pattern of ownership should be evolved which conforms to certain commonly agreed rights and obligations. Small peasant-owners will in the immediate future form the main body of cultivators. A rural structure based on peasant owners can meet the requirements of food and raw materials of a growing national economy only if land is used with care, the advantages of cooperative work and organisation are fully realised and a progressive system of agriculture is integrated with a great deal of non-agricultural work through the development of village industries, labour cooperatives and processing of livestock and agricultural products. In the success of the land reform programme, the national extension and community development programme has an extremely important part to play. Increasingly land reform has to be viewed as part of the wider processes of social and economic development.

6. Ownership of land, like other rights in a progressive community, entails certain obligations and limitations. The most important obligation concerns the use and management of land, to which subject reference is made in a later section of this chapter. A ceiling on future acquisition of land already exists in several States. It is

important that where it does not already exist immediate steps should be taken to prevent acquisition of land above a ceiling through sale or otherwise. In a number of States, as part of legislation relating to consolidation of holdings, measures for preventing fragmentation have been adopted. It frequently happens, however, that such measures are not adequately enforced. Provisions against the creation of fragments or their further splitting up by transfer or partition and regulation of the transfer of existing fragments are essential in the interest of agricultural development and should be enforced with the active association of village panchayats.

7. It was visualised in the first five year plan that to the extent leases of land are permitted, it would be desirable that they should be made through the village panchayat. This would be a useful step from several points of view. Wherever the village panchayat is in a position to undertake this responsibility, there should be no direct leases.

Tenancy Rights

8. The ensuring of protection to tenants is recognized as urgent. In the actual implementation of this policy difficulties have arisen which can be traced to the definition of the expression "personal cultivation". In the State laws, a degree of uniformity in the use of this term is desirable. Personal cultivation may be said to have three elements, namely risk of cultivation, personal supervision and labour. A person who does not bear the entire risk of cultivation or parts with a share of the produce in favour of another cannot be described as cultivating the land personally. The expression "personal supervision" may include supervision by the owner or by a member of his family, provided it is accompanied by residence in the village or in a nearby village during the greater part of the agricultural season. As an element of personal cultivation, the performance of minimum labour, though correct in principle, presents difficulties in practice. It is therefore suggested that in legislation relating to tenancy reform the expression "personal cultivation" should be defined so as to provide for the entire risk of cultivation borne by the owner and personal supervision being exercised in the manner described above by the owner or by a member of his family. When land is to be resumed for personal cultivation, however, it is necessary that each of the elements of personal cultivation, including labour participation in the main agricultural operations, should be insisted upon.

9. Existing legislation should be re-examined in terms of the definition of personal cultivation set out above, and suitable action

taken to confer tenancy rights on individuals who have in the past been treated merely as labourers or as 'partners in cultivation'. Because the definition of personal cultivation has been generally defective in the past, in a number of States crop-sharing arrangements which have all the characteristics of tenancy are not regarded as such and crop-sharers are denied rights allowed to tenants.

10. A number of difficult problems relating to the tenancy legislation centre on the issue of resumption of land for personal cultivation. It is common ground that a person suffering from a disability should be permitted to lease out land and should have the right to resume it for personal cultivation when the disability ceases. This concession is generally extended to unmarried women, widows, minors, persons serving in the armed forces and those suffering from mental or physical infirmities. In the first five year plan, it was proposed that the limit for resumption for personal cultivation should be set at three times the family holding. Resumption was to be on grounds of personal cultivation only and was to be limited to the area which the adult labour force of the family could actually bring under cultivation. These recommendations have not proved adequate in practice. It is therefore recommended that the limit of area which can be resumed for personal cultivation should now be fixed at one family holding and be subject to a minimum area being left to the tenant. A family holding has been defined by a committee of the Land Reform Panel as the area of land which yields a gross average income of Rs. 1,600 per annum, or a net annual income (including remuneration for family labour) of Rs. 1,200 and is not less than a plough unit.

11. Persons holding one family holding or less may be defined as small owners. In the light of the experience gained it is proposed that a small owner should be permitted to resume for personal cultivation one-half of the area owned by him but not less than a basic holding, that is, the minimum area needed for profitable cultivation in accordance with legislation relating to the prevention of fragmentation. Where, as a result of such resumption, the tenancy becomes smaller than a basic holding, the Government should endeavour to find land for cultivation so as to bring the tenancy to the level of a basic holding. This will be facilitated to some extent when land in excess of a ceiling becomes available.

12. It is desirable that the areas which the landlord is entitled to resume should be demarcated as speedily as possible. In areas in excess of the limit of resumption for personal cultivation, tenants should have continuing and heritable possession. Tenants of lands liable to resumption for personal cultivation should have heritable

(but not permanent) rights and also the right to make improvements.

In the first five year plan it was stated that a rate of rent exceeding one-fourth or one-fifth of the produce should be regarded as requiring special justification. Progress in the regulation of rents has been uneven and in several States legislation lags behind. It is difficult to visualise circumstances in any part of the country which could now justify a level of rents in excess of one-fifth of the produce of land. While reducing rents, where they consider necessary, State Governments could provide an option to owners to surrender their lands to Government in return for compensation as prescribed in legislation relating to ceiling.

13. It is desirable that steps should be taken immediately to bring all tenants of non-resumable areas into direct relationship with the State. The State should undertake the obligation to recover fair rent from the tenants and pay it to the landlord after deducting the cost of collection. As soon as it may be feasible and keeping in view the level of rents and the financial obligations involved, State Governments may consider buying out of the landlord's interest in the non-resumable areas on payment of compensation. In determining the rate of compensation, State Governments may take into consideration the aggregate of the net increase in revenue to the States (that is, fair rent minus land revenue) over a period not exceeding 20 years. Graded rates of compensation might also be considered. The compensation should be paid in the form of bonds redeemable over a period of 20 years. The tenants' liability to pay fair rent should continue so long as it may be necessary for enabling the State Government to meet the liability for payment of compensation. In addition, provision may also be made for voluntary purchase of ownership, the price being fixed at a suitable multiple of the rental value of land or of land revenue.

14. During the past two or three years, there have been instances in some States of large-scale ejectment of tenants and "voluntary surrenders" of tenancies. Most "vountary surrenders" of tenancies are open to doubt as bonafide transactions and it is desirable that reviews of cases of alleged voluntary surrenders over a period of, say, three years, should be undertaken and, to the extent necessary, action should be taken to restore the tenants. It is recommended that action should also be taken to stay ejectments of tenants and sub-tenants except on ground of non-payment of rent or mis-use of land. Ejectments of tenants which may have taken place during, say, the past three years should be reviewed with a view to restoration wherever circumstances justify.

CEILINGS ON AGRICULTURAL HOLDINGS

15. The first five year plan recommended in principle that there should be an absolute limit to the amount of land which an individual may hold. It was suggested that this limit should be fixed by each State, having regard to its own agrarian history and its present problems. The census of land holding and cultivation, which was proposed, was intended to provide data relevant to decisions pertaining to ceilings on agricultural holdings. As suggested earlier, sufficient information has now become available to support general proposals for the imposition of ceilings on agricultural holdings which individual States can adapt to local conditions.

16. It is proposed that during the second five year plan the policy of ceilings on agricultural holdings should be implemented throughout the country. In terms of the general proposals made in the plan the details of the policy would naturally have to be worked out carefully by each State. The ceiling would apply to owned land (including land under permanent and heritable rights) held under personal cultivation, tenants being enabled to acquire rights of ownership on leased land on lines indicated earlier. Lands held by all the members of a family should be considered together, a family for this purpose being deemed to consist of husband, wife, and dependent sons, daughters and grand-children. The expression "family holding" has been explained earlier. It is recommended that the ceiling should be fixed at three times the family holding for an average family whose members do not exceed five in number. Where the number of members is larger, the ceiling may extend to a maximum of six family holdings. Each State may determine according to prevailing local conditions the basis on which the size of family should be allowed for in the application of the ceiling. A question to which each State will have to give urgent attention is the effect of *malafide* transfers during the past two or three years on the application of ceilings on holdings.

17. The following categories of farms may be exempted from the purview of ceiling:

(1) Composite enterprises such as tea, coffee and rubber plantations. In such enterprises income from land should be taxed along with income from industry. Such land should not be deemed to be agricultural land;

(2) orchards where they constitute reasonably compact areas;

(3) specialised farms engaged in cattle breeding, dairying, wool raising etc;

(4) efficiently managed farms which consist of compact blocks, on which heavy investment or permanent structural

improvements have been made, whose break-up is likely to lead to a fall in production.

These are general suggestions which will necessarily have to be adapted to local conditions in each State.

18. The question has recently arisen whether sugarcane farms operated by sugar factories should be treated as parts of composite enterprises or as instances of agricultural land. Various aspects of this problem are being studied.

19. Areas in excess of the ceiling should be acquired by State Governments on payment of compensation at rates to be determined. Compensatory bonds redeemable over 20 years may be issued to owners in respect of surplus lands. The amount of compensation (including interest charges) may be determined with reference to the aggregate of the net increased income accruing to the State (that is, fair rent minus land revenue) for a period of, say, 20 years. Where the surplus area is distributed, the recipients should become State-tenants, liable to pay fair rent to the State.

20. In the settlement of lands acquired in consequence of the application of ceilings, tenants displaced as a result of resumption of land for personal cultivation, farmers with uneconomic holdings and landless workers should receive preference. Where the surplus areas are in fairly sizeable blocks, they should be operated through co-operatives. Farmers with uneconomic holdings below the basic level should be admitted into these cooperatives on agreement to pool their lands.

Landless Agricultural Workers

21. During the first five year plan, apart from enforcement of minimum wages in a number of States and measures relating to the allotment of residential sites, little has been done for the direct benefit of landless agricultural workers. It is imperative that during the second plan there should be a large enough programme for giving land to agricultural workers. It is recognised that with the existing pressure on land only a small proportion of agricultural workers can be settled on land. Nevertheless, for reasons of social policy no less than those of economic development, it is important that while the national economy develops and offers wider opportunities for employment to agricultural workers and others, some positive relief within the rural economy is given to a section of the population which has long suffered from disabilities and has been denied minimum social and economic opportunity. It is therefore recommended that in each State after the data relating to the census of land holding and cultivation have been studied and the areas

likely to become available assessed, detailed schemes for the resettlement on land of agricultural workers should be drawn up. Bhoodar lands to the extent they are made available may also be brought into the scheme for settlement on surplus lands above the ceiling indicated above.

22. While special personnel for organising the resettlement of landless workers will be required, the resources needed for development should be provided from agricultural, national extension and community development, village industry and other programmes for which provision exists in the plan. The extent to which such resources will be available will, however, have to be further examined. It would be desirable to set up in each State a special board, including non-official members, for advising on resettlement schemes for landless workers and reviewing progress from time to time. It would also be useful to have a similar board at the national level so that questions of policy and organisation and the progress of land resettlement schemes in the country as a whole can be reviewed from time to time.

23. In this connection, reference may be made to the Bhoodan movement. So far over 4 million acres of land have been collected by way of gift for the rehabilitation of landless workers and about 300,000 acres of land have been distributed. State Governments are passing laws to facilitate redistribution of Bhoodan lands.

Land Management

24. In the first five year plan it was urged that in all States programmes for consolidation of holdings should be expanded and pursued with vigour. Appreciable progress in the consolidation of agricultural holdings has been made only in a few States. We would reiterate the recommendations made earlier and suggest that in national extension and community project areas consolidation of holdings should be undertaken as a task of primary importance in the agricultural programme.

25. In the first plan the principle that in the cultivation and management of land, individual owners should conform to standards of efficiency determined by law was commended. In its application, this was conceived in the first instance in relation to large holdings. The subject has been studied in some detail by a subcommittee of the Panel on Land Reform. The main proposals made by the sub-committee are as follows :

(1) All cultivators should be under an obligation to maintain reasonable standards of efficient production and to

preserve and develop the fertility of the soil. Land management legislation should provide the necessary incentives and sanctions for the performance of this obligation. Such legislation, however, is not to be viewed as a means of coercion in isolation from other factors essential for the maintenance of efficient production. Preservation of standards should be linked with the fulfilment of certain conditions such as stability of tenure, consolidation of holdings, progressive development of cooperation and Government assistance in the provision of financial resources, technical guidance and supplies.

(2) Land management legislation should provide for standards of efficient cultivation and management which will permit objective, qualitative judgements. A list of factors to be taken into account in judging the quality of management of a farm or a holding has been worked out by the sub-committee, so that it can be adapted suitably to the agricultural and economic conditions of different areas. On the basis of these factors, it should be possible to classify farms according to the quality of management into suitable grades, for instance, two grades above and two below the average grade. While farms which fall into the first two categories should be given suitable encouragement and recognition, steps should be taken to ensure that those falling below the average are assisted in improving their standards. The legislation should provide for such measures as warning, direction and supervision and, in the last resort, for assumption of management.

(3) Sanctions should be provided in the legislation for the fulfilment of certain obligations such as (a) for large and medium holdings, the bringing of cultivable waste lands under cultivation within a reasonable period, (b) measures relating to levelling, bunding and fencing, maintenance of irrigation channels, control of insects and diseases and eradication of weeds and terracing of fields, and (c) use of improved seeds, composting of farm refuse, etc.

(4) While land management legislation has to apply to all farms, with a view to gaining experience, and evolving suitable methods, it may be applied in the first instance

in each State to selected national extension and community project areas. At the village level, the implementation of the legislation should be undertaken mainly through village panchayats, but suitable arrangements for supervision should also be made.

26. These are the broad principles guiding land management legislation. Details of application have to be carefully worked out with reference to the conditions in each State. Effective arrangements for land management will be an important factor in increasing agricultural production and conserving the natural resources of the country and in national extension and community project areas special attention should be given to them.

CHAPTER VII

COMMUNITY DEVELOPMENT AND NATIONAL EXTENSION

COMMUNITY projects and the National Extension Service have come to occupy a place of central importance in those sectors of development which bear most closely upon the welfare of the rural population. Increasingly, the planning of programmes for agriculture, education, health, village industries and co-operation will be undertaken in terms of areas selected for intensive work on the pattern of national extension and community projects. These projects are intended to integrate and co-ordinate the field work of various agencies into well-knit programmes carried out in co-operation with the people and, as the extension movement expands, they will become the normal pattern of the Welfare State in action.

2. In the First Five Year Plan community development was described as the method and rural extension as the agency through which the process of transformation of the social and economic life of villages was to be initiated. The main elements in this approach are: firstly, the method of community development; secondly, the agency provided by the extension service for applying the method of community development in co-operation with the people; and thirdly, programmes of development which give substance to the community approach and bring official and non-official workers together in a common cause. Once the initial impulse has been given, a programme such as this grows out of its own experience and momentum. As it develops, it meets old needs and creates new ones. New methods are discovered, deficiencies long ignored come to be recognised, and in content and in the manner of its functioning the programme succeeds in solving some of the vital problems of the community.

3. All activities comprised in the community development and national extension programme are integral parts of activities in different sectors of development with which various governmental agencies are concerned. It has therefore been difficult to isolate results which could be ascribed more specifically to the community

development and national extension programme and those which are related more closely to action on the part of the various development agencies. This is part of the wider problem of assessment and evaluation of results achieved in a number of rural programmes, both individually and in relation to one another. The second report of the Programme Evaluation Organisation contained a careful analysis of various problems of organisation which have arisen in the implementation of the community development and national extension programme. While acknowledging the significant role of the programme in the intellectual, social and economic transformation of the countryside, it referred to the slow development of co-operative institutions, the role of the village panchayat, the need to ensure adequate administrative arrangements for supplies and the importance of developing village industries. Through regional seminars of community project and extension workers and other means a continuous effort is being made to enhance the effectiveness of the programme at the level of the village.

4. Concentrated efforts to educate the people in improved techniques of production go a long way to strengthen the rural economy. The results of national extension and community projects are to be judged less in terms of the direct expenditure involved or the physical achievements recorded than in relation to the influence which the programme exerts upon the activities of the people. The readiness of the people to respond is seen from the fact that what they have contributed is valued, at present, at about 60 per cent. of the expenditure incurred by the Government.

The participation of the people in the planning and execution of schemes has been a specially promising feature of the programme. Where a correct approach is made on behalf of the administration the people have come forward to give freely. It is perhaps natural that villagers should evince an initial preference for participation in those types of activities in which their contribution could be mainly in the form of labour such as construction of roads and school buildings.

5. Village institutions have played an important part in enlisting the participation of the people. Considerable use is being made of local organisations like panchayats, co-operative societies, and union boards for the execution of development programmes. In some areas development activities have been entrusted to *ad-hoc*, non-statutory and non-elective bodies, such as Gram Vikas Mandals in Madhya Pradesh, Gram Mangal Samities in Orissa, Gram Seva Sanghams in Madras and Palli Unnayan

Samities in West Bengal. The participation of the people in development activities organised by local bodies is helping to create leadership in the village. In many places students and N.C.C. Cadets have also played a valuable part in development activities.

6. In the community development and national extension programme the unit of operation is the development block which represents on an average 100 villages with a population of 66,000 spread over an area of 150 to 170 square miles. Since the inauguration of the progamme in October, 1952, additional projects have been taken up from time to time with a view to reaching the target set for the first plan period, namely to bring one-fourth of the rural population of India within the orbit of this programme by 1955-56. Altogether 1200 development blocks comprising approximately 123,000 villages and a population of about 80 million have been allotted. Of these 1200 blocks, 700 will be of the more intensive type, namely, community projects.

7. As regards the future programme, the National Development Council approved in September 1955 that during the second five year plan the entire country should be served by the National Extension Service and that not less than 40 per cent. of the national extension blocks should be converted into community development blocks for intensive development. The question of converting a higher percentage upto 50 per cent. of the national extension blocks into community development blocks would depend upon sufficient resources becoming available for this purpose. This means undertaking of work in about 3800 additional national extension blocks, of which at least 1120 are to be converted into community development blocks during the period of the second plan.

8. The programme of development envisaged above is estimated to cost about Rs. 263 crores. As against this, a sum of Rs. 200 crores has been allocated. It is proposed that the programme already drawn up for the year 1956-57 should be implemented and the question whether the budget for community development and national extension blocks should be adjusted, or the programme staggered, or additional resources found, would be considered by the National Development Council at a later date, in the light of experience gained with regard to rate of progress, etc.

9. In the first plan period substantial results have been achieved under the programme in many fields, especially in the fields of agriculture, animal husbandry, irrigation, education, social education,

health and sanitation, communications etc. There are, however, vital gaps in the programme. While, therefore, the normal programme of work will be continued during the second plan period, the fields to which special emphasis will be given are, broadly speaking, the following:—

(1) development of village and small-scale industries—with a view to providing additional income, and increasing the amount of employment in the countryside;

(2) development of cooperative activities;

(3) intensification of the programme of work among the women and youth; and

(4) intensive effort in the tribal areas.

10. The requirements of administrative and technical personnel for the Community Projects and the National Extension Blocks are very large. It is estimated that at the end of the first five year plan the programme will have engaged nearly 84,000 persons in different categories such as, project executive officers, block development officers, village level workers, social education officers, veterinary personnel, cooperative inspectors, doctors, compounders, nurses, midwives, lady health visitors, sanitary inspectors, overseers, arts and crafts supervisors, mechanics, engineers, etc. The number of additional persons who are likely to be employed under these categories during the second plan period together with the clerical and menial staff will be of the order of 2 lakhs.

11. Arrangements have been made for the training of personnel of all categories. Beginning with 25 training centres for extension workers four years ago, now there are 43 with an annual out-turn of about 5,000. A total of 71 extension training centres and 95 basic agricultural schools/wings attached to training centres and agricultural colleges throughout the country will be in operation during the second plan period for imparting extension and basic training to village level workers. Provision has also been made for training in home science for women village level workers. An important step which has been recently taken is to start 26 pilot projects for the intensive development of village and small industries. Special arrangements have been made for giving training in cooperation and cottage industries for personnel selected for work in community projects and national extension blocks. Likewise, adequate arrangements have been made for the training of block development officers, social education organisers and health personnel.

12. The aim of the community projects and the National Extension Service is not merely to provide for ample food, clothing, shelter, health and recreation facilities in the villages. These are of

course essential. Equally important is the realisation that what is required is a change in the mental outlook of the people, instilling in them an ambition for higher standards. This is essentially a human problem—how to change the outlook of the 70 million families living in the countryside, arouse enthusiasm in them for new knowledge and new ways of life and fill them with the ambition and the will to live a better life. The results obtained so far have on the whole been encouraging and as the administration and leaders of village communities gain greater experience, there are grounds for hope that the movement will gather momentum.

13. Extension services and community organisations are one of the principal sources of vitality in democratic planning. The second five year plan will reach out to millions of people through the network of community projects and national extension service. These projects are the means by which, through cooperative self-help and local effort, villages and groups of villages can achieve in increasing measure both social change and economic progress and become partners in the national endeavour.

CHAPTER VIII

PROGRAMME FOR AGRICULTURE

Agricultural Production

Programmes for agricultural development were given the central place in the first five year plan. Agriculture and community development, along with irrigation and power, accounted for about 45 per cent. of the total outlay. Although this priority was accorded in the special circumstances of shortage and inflation which existed when the plan was formulated, it has justified itself from the general standpoint of economic development. The increase in agricultural production which has taken place since 1952-53 has helped, more than any other factor, to end inflation, stabilise the economy and prepare the way for a higher rate of development during the second five year plan. The targets of additional production for the first plan are compared in the table below with the production levels expected at the end of 1955-56.

Commodity	Unit	Production in base year*	Production in 1954-55	Estimated production in 1955-56	Targets of addl. production	Increase over the base year	
						Actual	%
Cereals . .	million tons	46.0	55.3	55.0	6.6	9.0	19.6
Pulses	,,	8.0	10.5	10.0	1.0	2.0	25.0
Total Foodgrains	,,	54.0	65.8	65.0	7.6	11.0	20.4
Major oilseeds	,,	5.1	5.9	5.5	0.4	0.4	7.8
Sugarcane (gur)	,,	5.6	5.5	5.8	0.7	0.2	3.6
Cotton	Million bales	2.9	4.3	4.2	1.3	1.3	44.8
Jute	,,	3.3	2.9	4.0	2.1	0.7	21.2

*Base year or foodgrains (cereals and pulses) is 1949-50; for others 1950-51.

The index of agricultural production (base: 1949-50 = 100) which stood at 96 in 1950-51 is expected to go up to 115 in 1955-56.

2. The target of additional production for foodgrains for the period of the first plan had been worked out in terms of the contribution anticipated from different sources such as irrigation, more intensive use of fertilizers, supply of improved seeds and programmes of land reclamation and development. The additional area brought under minor irrigation during the first plan amounts

to about 10 million acres as against a target of about 11 million acres. The consumption of ammonium sulphate has more than doubled, from 275,000 tons before the first plan to 610,000 tons four years later. More than one million acres of land have been reclaimed through the Central Tractor Organisation and 1·3 million acres through State tractor organisations. Besides this, about 5 million acres have been developed through land development measures including mechanical cultivation, bunding and levelling and reclamation of land by manual labour. The total cropped area has increased from 326 million acres to 350 million acres in 1954-55. The area under food crops has risen from 257 million to 270 million acres and under commercial crops from 49 million to about 60 million acres. The area under other crops (20 million acres) has, however, shown little change. The area under commercial crops has increased from 15 per cent of the total cropped area to 17 per cent. while the area under food crops has diminished from 79 to 77 per cent of the cropped area.

3. The satisfactory results attained in the agricultural sector during the first plan suggest a change in the perspective for agricultural development during future plans. It is no longer necessary to place a dominant emphasis on the production of cereal crops. The aim now must be to diversify agricultural production, to put land to the best possible uses and to take all such measures as will increase the productivity of land and the yield of individual crops. As irrigation develops and improved agricultural practices are adopted, especially in areas served by national extension and community projects, aspects of land utilisation which have been neglected in the past such as horticulture, cultivation of fodder crops to support livestock development and dairy farming and village plantations for the supply of fuel, should receive sustained attention.

4. This approach has been kept in view in the formulation of the agricultural programmes of the Central Government and the States for the second plan. Programmes for agriculture and community development have to be considered together in terms of their total impact on the rural economy. In the first plan Rs. 90 crores were provided for national extension and community projects, of which amount nearly two-thirds are expected to be utilised. For the second plan, the amount provided is Rs. 200 crores. The provision for various aspects of agricultural development, as distinct from similar works undertaken in national extension and community projects, has been increased from Rs. 243 crores to

Rs. 350 crores. In the statement below the distribution of outlay under different heads in the first and second plans is compared.

Item	(Rs. crores) Outlay provided	
	in the first plan	in the second plan
Agriculture		
Horticulture	195	164
Animal Husbandry and dairying	1	9
Forests and soil conservation	22	61
Cooperation	12	48
Fisheries	7	47
Others	5	11
	1	10
TOTAL	243	350

The statement brings out the shift of emphasis contemplated in the plan. Appreciable progress will have been made in the direction of a diversified agricultural economy when the targets set for the plan are realised.

5. The principal targets of agricultural production in the plan are given in the table below:

Commodity	Unit	Estimated production in 1955-56	Target of additional production	Estimated production by 1960-61	Percentage increase
Foodgrains	m. tons.	65·0	10·0*	75·0	15·4
Oilseeds	"	5·5	1·5	7·0	27·3
Sugarcane (gur)	"	5·8	1·6	7·4	27·6
Cotton	m. bales	4·2	1·3	5·5	31·0
Jute	"	4·0	1·0	5·0	25·0

6. The increase in food production to the extent of 10 million tons is expected to be realised broadly from the following sources:

	(million tons)
Major irrigation	2·4
Minor irrigation	1·8
Manures and fertilizers	2·5
Improved seeds	1·0
Land reclamation and land development	0·8
Increased use of improved techniques including application of soil conservation methods and more economic use of water.	1·5
TOTAL	10·0

* The distribution of crops may be somewhat as follows :

	(figures in million tons)
Rice	4·0—5·0
Wheat	1·5—2·0
Other Cereals	2·0—2·5
Pulses	1·5—1·5

7. At the end of the plan, the level of consumption of foodgrains is expected to increase from 17·2 oz. per adult at present to 18·3 oz, and of sugar (in terms of raw sugar) from 1·4 oz. (1955-56) to 1·75 oz.

8. The additional area under irrigation from major and minor works to be undertaken during the plan will be about 21 million acres. Of this about 9 million acres will be from minor irrigation works including tube-well schemes which will irrigate about 1·2 million acres. This estimate takes into account minor irrigation programmes in national extension and community project areas as well as in other areas. The consumption of nitrogenous fertilizers (in terms of ammonium sulphate) is expected to increase three times from 610,000 to over 1·8 million tons per annum at the end of the plan. Effective measures will be taken for the production and multiplication of improved seeds. The Japanese method of paddy cultivation which has been tried over about 20 lakh acres by the end of the first plan will be extended to cover about 40 lakh acres at the end of the second plan. The use of this method has given very encouraging results and its extension will materially help increase the average yield of paddy. In the areas served by national extension and community projects and in all irrigated areas, special attention will be given to intensive cultivation and to the raising of average yields of crops.

9. For crops such as sugarcane, cotton and jute a number of special measures are proposed to be undertaken. Intensive sugarcane development schemes, are to be extended to non-sugar factory areas. The main features of these schemes are development of irrigation, intensive manuring and organisation of cooperatives for making, credit and production. About a million more acres are expected to be brought under sugarcane cultivation as the result of increased irrigation facilities. In cotton, efforts will be concentrated on increasing the area and production of long staple varieties. As large areas suitable for the production of long staple cotton will become available in the regions benefiting from a number of multi-purpose irrigation projects, cotton production will be considerably stepped up. In the case of jute, the emphasis will be on the improvement of quality. Improved seed will be supplied at concessional rates and the arrangements for retting will receive greater attention.

10. Development plans of States also provide for schemes for the cultivation of improved types of tobacco, for better methods of production and marketing of black pepper, lac, and cashewnut and for reducing the existing deficit in coconut oil (40,000 tons) and arecanut (35,000 tons) by increasing indigenous production.

11. Development programmes and other problems concerning tea, coffee and rubber are at present being examined by the Plantations Enquiry Commission. Between 1950 and 1954 the total

production of tea has varied from 613 to 644 million pounds and exports have ranged between 427 and 470 million pounds. It is hoped to work out a programme for increase in production up to, say, 700 million pounds and increase of exports up to, say, 500 million pounds. A fifteen-year development plan for coffee is being examined by the Coffee Board. This aims at additional production of 23,000 tons above the present level of 25,000 tons. Of this increase, about 10,000 tons is proposed to be secured from intensive cultivation and rehabilitation of existing estates and 13,000 tons through reclamation and fresh plantings. The production of rubber has increased from 15,599 tons in 1950 to 21,493 tons in 1954. During the five years 1950 to 1954, on the average, a little over 3,000 tons of rubber have been imported. A scheme drawn up by the Rubber Board for replanting 70,000 acres of the old rubber area at the rate of 7,000 acres a year and for bringing 10,000 acres of new area under rubber at 2,000 acres a year is being considered by the Central Government.

12. One of the more important aims in the agricultural sector during the second plan is to increase the production of fruit and vegetables. This is necessary both for increasing the supply of protective foods and for bringing about greater diversity in the pattern of agriculture. The plan allots Rs. 8 to 9 crores for promoting fruit and vegetable cultivation. It is proposed to advance long-term loans to farmers for bringing new land under orchards and also to provide short-term credit for rejuvenating existing orchards. For making plants and seed of suitable variety and quality available, new nurseries are to be established. The plans of States envisage the rejuvenation of about 500,000 acres of existing orchards and the growing of new orchards to the extent of 200,000 acres. The production of vegetables is to be encouraged, especially in the neighbourhood of towns, and schemes for the multiplication of nucleus potato seed are to be promoted. Considerable emphasis will be placed on building up marketing co-operatives of fruit and vegetables growers. The plan also provides for the development of the fruit and vegetable preservation and canning industry through loans for establishing canneries and cold storage plants. In this connection details of assistance to be given to the industry are under examination.

Animal Husbandry

13. At present only a fraction of the contribution which animal husbandry and dairying can make to the growth of the rural economy and to rise in living standards is being realised. In providing for an outlay of over Rs. 40 crores for animal husbandry and

about Rs. 22 crores for dairying, it is hoped that during the second five year plan greater progress will be made in this branch of agriculture than has been so far possible. Animal husbandry programmes, however, encounter serious practical difficulties. Before solutions for them can be found, it is necessary that the size of the problem and its essential features should be widely recognised.

14. According to the livestock census of 1951 the numbers of cattle in India were as follows:—

(In millions)

Cow		*Buffalo*	
Breeding cows	46·34	Breeding buffaloes	20·99
Breeding bulls	0·65	Breeding bulls	0·31
Work stock :		Work stock :	
Males	58·41	Males	6·01
Females	2·31	Females	0·53
Young stock	43·49	Young stock	14·73
Useless cattle	3·89	Useless buffaloes	0·78
	155·09		43·35

Despite this large population in 1950-51 the net value of live stock products amounted to Rs. 664 crores or about 11 per cent of the income from agriculture. Studies of animal nutrition indicate that the available supplies of cattle feeds, whether by way of dry fodder or green fodder or concentrates, fall considerably short of requirements. In relation to the supplies available, it is commonly considered that one-third of the cattle population could be regarded as being surplus. Large numbers lead to poor feeding, and poor feeding comes in the way of attempts to raise productivity. Without reorganisation of the agricultural economy there is little likelihood of larger quantities of fodder becoming available. At the same time, as the effects of famines and of epidemic diseases have been brought under control, the number of surplus cattle are likely to increase. This trend will become more marked on account of action taken in recent years to place a total ban on the slaughter of cattle. The attempt made during the first plan through the *gosadan* scheme to find a solution for the problem of surplus cattle has not so far yielded promising results. Only about 20 *gosadans* have been organised and many of them have found it difficult to secure the grazing areas which were needed.

15. The plans of States for livestock development provide for expansion of veterinary facilities, Key villages, control of rinderpest and other diseases, gosadans and goshalas. Increased facilities for training and strengthening of the administration of animal husbandry programmes have been provided for. Provision has also

been made for poultry and sheep and wool development. During the first plan the number of veterinary dispensaries increased from about 2,000 to 2,650. During the second plan about 1,900 veterinary dispensaries are expected to be added.

16. In the past rinderpest and other cattle diseases have taken a large toll, rinderpest alone accounting for about 60 per cent. of the mortality. A pilot scheme for the eradication of rinderpest which has been carried out during the first plan has made it possible to draw up a programme which aims at the eradication of rinderpest over the entire country during the second plan.

17. The programme for the improvement of livestock is undertaken mainly through the operation of the key village scheme. The scheme envisages concentrated breeding operations in key villages which are controlled mostly by artificial insemination centres, each centre serving about 5,000 cows of breeding age. In this programme a comprehensive approach is made to cattle improvement, besides steps taken to castrate scrub bulls. fodder resources are to be developed, breeding of calves subsidised and cattle improvement organised on cooperative basis. During the first five-year plan 600 key villages and 150 artificial insemination centres were established. For the second plan these targets are to be doubled. and 1200 key villages and 300 artificial insemination centres established. These key villages are expected to produce 3000 improved bulls, 936,000 improved bullocks, and 10,000 cows. For certain well-known breeds with high milking qualities, breeding farms are proposed to be established.

18. The unfavourable economic circumstances under which animal husbandy is carried on, account for the low yield of milk. As compared to the yields of cows in other countries, which frequently average from 3000 to 4000 lbs. per lactation, the better Indian breeds yield about 1500 pounds per lactation. The general average is, however, only one-half of this figure. The per capita consumption of milk has been estimated as being a little over 5 ounces as against the consumption of 10 ounces per head which has been recommended as a suitable minimum goal for balanced nutrition. It is therefore important to have a-programme for doubling milk production over the next 10 to 15 years. Such a target is clearly within the bounds of practical possibility if adequate feeding and systematic management can be organised on a large enough scale and steps are taken to control the numbers of cattle. Large increases can also be secured in the yield of buffaloes. Improved methods of cattle management would have an important bearing on increase in the efficiency of bullocks. Studies have shown that

for the country as a whole the efficiency of bullocks could be raised by one-half and in the eastern parts of the country to an even greater extent. With increased efficiency agricultural operations are likely to require one-fourth to one-fifth fewer draught animals than at present, thus reducing the pressure on land.

19. For increasing milk production and improving yields, efficient organisation of the supply of milk for urban areas can play an important part. This aspect of development is being emphasised in the second five-year plan, which contemplates the establishment of 36 milk supply unions, 12 cooperative creameries and 7 milk drying plants. The latter will produce butter, ghee and skimmed milk powder. In addition to large colonies on the lines of the Aarey scheme in Bombay, wherever these are considered indispensable, experience suggests that valuable results can be obtained by organising milk producers' cooperatives on a village basis. Milk producers are to be given loans for purchase of animals and for other purposes. If a milking shed is provided at a central place in the village, the milk can be sealed and transported to the processing centre from where distribution can be arranged. Efficient marketing and processing of surplus milk from villages can simultaneously help secure a remunerative price for the producer, improvement in the quality of cattle and supply of pure milk for the urban consumer.

20. During the second plan greater attention is proposed to be given to the development of poultry and of sheep and wool for which about Rs. 3 crores and Rs. 1·6 crores respectively have been provided. It has been estimated that the average egg-laying capacity of a hen in India is a little over 50 eggs per year, representing a volume of production which could be doubled over the next 10 years through improvement of the indigenous stock by grading up and control of disease. To develop sheep breeding it is proposed to establish three new farms for producing quality rams. It is also proposed to develop cross-breeding operations in certain areas for the production of the finer types of wools which are now imported. A fleece-testing laboratory is to be set up at each farm for testing wool produced at sheep and wool extension centres, of which it is proposed to establish nearly 400 during the second plan. In dry areas, where possibilities of irrigation are limited, there is considerable scope for increasing wool yields which are at present extremely low.

Fisheries

21. The fisheries programme will be expanded in the second plan with a view to increasing the production and availability of fish and fisheries products. The schemes of the Ministry of Food and Agriculture envisage the expansion of off-shore and deep sea fishing and

for this purpose additional exploratory off-shore fishing stations will be established on the western and eastern coasts and in the Andaman islands. A fisheries technological station will also be set up. An efficient fisheries extension service is essential for a proper development of fishery resources of the country. A few extension units were established during the first five year plan for demonstrating the latest techniques in fish farming and fishing methods and provision has been made in the second plan for increasing their number. With a view to providing adequate facilities for refrigerated transport of fish from collection centres to the consuming centres, it is proposed to procure insulated rail cars. Ice and cold storage facilities already exist in the principal collection and consuming centres; in others it is expected that these will become available in the near future. Provision has been made in the plans of States for establishing 18 ice plants and cold storages and 10 freezers and refrigerators. In pursuance of the programme of off-shore fishing improved facilities at fishing harbours are to be developed. Problems relating to the utilisation of fish and other marine products and processing and storage of fish and fishing accessories will be investigated. In the maritime States special emphasis will be placed on the mechanisation of fishing craft. Work begun on these lines in the Indo-Norwegian project in Travancore-Cochin will be developed frther. Efforts will be made to organise and develop fishermen's cooperatives, and fisheries requisites. The plan provides about Rs. 12 crores for the development of fisheries.

Agricultural Marketing

22. The development programme for co-operative marketing of agricultural produce has been considered in an earlier chapter. The regulation of agricultural markets has to be undertaken so that the producer is assured of a fair deal. This was recognised in the first plan which recommended the extension of the operation of the Agricultural Produce (Markets) Act to all important agricultural markets. The number of regulated markets is expected to increase from 265 in 1950-51 to 480 at the end of the first plan. It is proposed to bring 500 to 600 agricultural markets under this scheme during the second plan. Legislation for regulating markets is being extended. The market regulation programme aims not only at the elimination of such malpractices as unauthorised reduction and the use of short weights but also provides for grading of produce, standardization of weights and measures and the organisation of an efficient market news service.

23. Grading of marketable produce encourages better quality production and facilitates transactions. For external trade grading and standardization have to be enforced on a compulsory basis, for,

on the integrity of standards depends the reputation of a country in foreign markets. The first plan recommended the extension of compulsory grading to a large number of export commodities such as wool, bristles, cashew kernels, pepper, etc. A scheme of wool and bristles grading has already been introduced. Grading of essential oils will be taken up by the end of the current plan. In all, Agmark standards have been notified for 110 items of agricultural and animal husbandry products, and investigations for fixing standards for 30 more items are in progress. Special attention has to be given to the wider adoption of standards and their enforcement.

FORESTS

24. Forests cover about 22 per cent of the total geographical area of the country as against the proportion of 33 per cent recommended in Government's resolution on forest policy. Sustained efforts have therefore to be made for the extension of forests and for raising timber and industrial plantations for meeting national requirements. Programmes for the second plan include proposals for raising plantations for timber, matchwood, wattle and blue-gum and for more intensive use of forest lands and fuller utilisation of available forest resources. The forest plan, for which about Rs. 25 crores have been provided, envisages afforestation to the extent of 600,000 acres, new plantations over an area of 300,000 acres, of which 100,000 acres will be devoted to industrial plantations including matchwood, wattle and blue-gum, and improvement of 50,000 acres of pasture lands. It is also proposed to construct or improve 7,000 miles of forest roads and, with the object of upgrading less well-known timbers through seasoning and chemical treatment and substituting them for more valuable timbers wherever possible, ten seasoning plants are to be established. More detailed consideration of the forest plan is necessary in view of the fact that forest statistics need to be improved and, in their present condition, they do not provide an adequate means for assessing the results of forest development programmes which are undertaken by the Government.

SOIL CONSERVATION

25. As recommended in the First Five Year Plan a Central Soil Conservation Board was set up at the end of 1953 for undertaking a programme of soil conservation and for organising in collaboration with the States a national soil conservation programme. Soil conservation boards have since been set up in 22 States. Four regional stations have been organised for research and for training of personnel. For the second plan Rs. 25 crores have been provided for soil conservation. A comprehensive programme has now been drawn up and envisages soil conservation measures over a total area of

3 million acres, which includes different types of land such as agricultural areas, catchment areas, ravine areas, waste areas and hilly regions. Provision has also been made for reconnaisance surveys. In desert areas the Central Government are undertaking soil conservation measures directly. In implementing soil conservation programmes, it is essential to secure the co-operation of farmers. Soil conservation measures should be given a great deal of emphasis in national extension and community project areas. Every effort should be made to educate villagers in the value of soil conservation and simple methods should be demonstrated as widely as possible. With the understanding participation of village communities, soil conservation programmes can be carried out with speed and economy.

Research

26. The experience of rural development work in recent years has brought home the importance of new research for the success of extension work in agriculture. During the second five year plan it is proposed to strengthen agricultural research work in institutions maintained by the Central and State Governments, linking their programmes directly with problems thrown up in the course of extension work. In particular, it is proposed to extend research in dry farming practices, soil conservation, land management and utilisation, development of selected crop varieties, utilisation of hybrid plants, control of pests and diseases and fertilizer use and manurial trials. Research programmes are also being organised in other fields such as forestry, fisheries, animal and poultry production, sheep and wool improvement and the development of fodder resources and of concentrates to provide better nutrition to cattle. It is hoped to bring about a degree of coordination between research programmes in different parts of the country and to arrange for the results of research in each State being made more widely known to research workers in other States, and to ensure that the period between research and its application is shortened as much as possible. An expert team has recently completed the comparative study of organisation and working of Indian and American agricultural colleges and research institutions and has made a number of recommendations which are under consideration. Among the new institutions to be established during the second plan is a National Dairy Research Institute. Agro-economic research, in which a beginning has recently been made, will be further developed.

Trained Personnel

27. Lack of adequate and qualified personnel has been one of the major handicaps in the implementation of programmes in the first

plan. With a large programme of development, the need for trained personnel is greater than ever. Special arrangements have therefore been made for meeting the requirements of personnel for the second five year plan. In agriculture, about 4500 agricultural graduates are needed. Provision has been made for the establishment of four new agricultural colleges and for expanding facilities at existing colleges. For training village level workers, the centres and institutes opened during the current plan will be expanded during the second plan. To meet the requirements of veterinary personnel a number of emergency measures were indicated in the first plan, such as the institution of double shifts and introduction of short-term courses in existing colleges. These will be continued during the second plan for which the total requirements of veterinary graduates are estimated to be nearly 5000. Provision has been made for new veterinary colleges and for strengthening of a number of existing colleges. In order that agricultural, veterinary and animal husbandry education may be improved selected colleges in different parts of the country will be assisted in developing into well-equipped centres of post-graduate training.

28. Facilities for training forest officers and rangers have been increased at the Forest College, Dehra Dun and at the Regional Forest College, Coimbatore. For cooperation a college to train higher personnel has already been established at Poona. Cooperative personnel of intermediate grades will receive training at five regional centres; for subordinate personnel training institutes are being set up in the States. Arrangements for the training of State Government personnel in soil conservation methods have been made at the research-cum-demonstration centres which have been set up by the Central Soil Conservation Board. Facilities for training in the development and management of fisheries and in modern fishing methods are being developed at research stations at Mandapam, Bombay and Calcutta.

CHAPTER IX

IRRIGATION AND POWER

THE irrigation and power programmes in the first five year plan were undertaken as the first phase of a long-term plan. After examining the available data, targets of developments to be achieved over a period of 15 years were formulated. In doing so the primary aim was to ensure the utilisation of the water resources of the country to the maximum extent possible.

2. Apart from various technical and economic considerations, in selecting projects for irrigation and power two general principles have to be kept in view. The first is that there should be a balance between large projects and medium-sized projects. Large irrigation and hydro-electric schemes take several years to complete and generally yield full benefits after a considerable interval. Medium-sized projects, however, yield early results and ensure a measure of continuity in the flow of benefits. At the beginning of the first plan a number of major projects were already in progress, so that possibilities of selecting new projects were severely limited. In the second five-year plan, besides carrying forward the various multi-purpose and other large projects begun during the first plan, preference has been given to medium-sized projects. The second principle in drawing up a national plan for irrigation and power development is to keep in view as far as possible the requirements of all regions in the country. This aim has been followed in proposing projects for the second plan. This will be seen from the statement at the end of this chapter which indicates the additional area to be irrigated and the additional generating capacity to be installed in each State during the period of the second plan. During this period the total investment on irrigation and power will be of the order of Rs. 900 crores as compared to the provision in the first plan of Rs. 661 crores.

IRRIGATION

3. At the beginning of the first plan the total area under irrigation from all sources was 50 million acres. Of this, 18 million acres were irrigated by Government canals, 2 million acres by private canals, 13 million acres by wells, 9 million acres by tanks

and 8 million acres from other sources. The area that received secure irrigation from large and medium-sized irrigation works was only about 25 million acres. The doubling of this area by irrigation works, which would remain effective in years of low rainfall, was adopted as a target to be achieved over a period of about 15 years. Progress achieved during the first plan and programmes to be undertaken in the second plan suggest that this target is likely to be fulfilled.

4. During the first plan 7 million acres would have been brought under irrigation by large and medium-sized projects. During the second plan the area to be irrigated is expected to be 12 million acres. Out of this, 9 million acres will benefit from projects undertaken during the first plan and 3 million acres from new projects included in the second plan. The area which these new projects will eventually irrigate is 15 million acres. Like the first plan projects, the new projects included in the second plan will also yield the major part of their benefits during the period of the third plan. In this period the additional benefits of irrigation carried over from the earlier plans are expected to amount to 12 million acres. These figures illustrate the continuity of efforts and results in the development of irrigation.

5. Out of 188 new irrigation projects, 136 will cost less than Rs. 1 crore; 34 between Rs. 1 crore and Rs. 5 crores; 8 between Rs. 5 crores and Rs. 10 crores; 9 between Rs. 10 crores and Rs. 30 crores; and only one project, more than Rs. 30 crores. Thus, to balance the big multi-purpose projects which distinguished the first five year plan, most of the new irrigation schemes to be undertaken during the second plan are of medium or small size and will yield results in quick succession.

6. Smaller irrigation works, such as wells, tanks, and minor irrigation channels, play an equally important part in developing irrigation. In 1950 they accounted for about one-half of the irrigated area of the country. During the first plan 10 million acres would have been brought under irrigation from minor works. The second plan provides for the irrigation of 9 million acres from these works.

7. Programmes of the dimensions described above raise difficult questions of finance. The capital costs which they entail are much larger than those in the earlier projects. The costs of maintenance and operation have also risen a great deal. In considering these problems two principles have to be emphasized. The first is that areas which derived facilities for irrigation, especially canal and tubewell irrigation, should pay betterment contributions towards

the capital cost of the project. Secure irrigation adds considerably to the value of the land and it is fair that a proportion of this added value should accrue to the community for financing future development. The second principle is that irrigation rates have to be determined on a commercial basis. In several States irrigation rates were fixed many years ago and may not take sufficient account of the increase in the value of crops which has since occurred.

POWER

8. The growth of energy resources is one of the principal foundations of industrial development. The consumption of electricity is rightly cited as an index of economic development. Until a few years ago, in spite of her resources in water and coal, India's power development proceeded very slowly. At the beginning of the first plan the total installed capacity of power generating plants amounted only to 2·3 million kW. Of this about one-half was held by electricity supply companies, which operated mainly in the bigger towns. About a quarter of the installed capacity was in the public sector, the balance being in industrial establishments which generated their own power.

9. Even more than irrigation, power development requires long-term planning. In a developing economy power requirements frequently outpace even optimistic estimates. This has already happened in India. At the beginning of the first plan, with the greater emphasis on irrigation which was then imperative, it was reckoned that installed capacity should increase by 7 million kW over a period of 15 years. It is now likely that this target for installed capacity will be achieved much sooner. New developments may change the prospect in a manner which cannot yet be foreseen in detail. Promising beginnings have already been made in respect of nuclear energy.

10. During the first plan installed capacity has increased by 1·1 million kW to 3·4 million kW. In this the share of the public sector has grown from 0·6 to 1·4 million kW. In addition, work on power plants with an aggregate capacity of about 0·2 million kW has almost been completed, and these will be commissioned before the end of 1956. During the first plan period *per capita* consumption of electricity has risen from 14 to 25 units. About 19,000 miles of sub-transmission and transmission lines of 11 kV and above have been added, thus more than doubling the transmission network which existed at the beginning of the first plan. As against 3687 towns and villages electrified early in 1951, the number at the end of the first plan will be about 6,500.

11. It has been estimated that over the next 10 years installed capacity will need to be expanded by 20 per cent. annually. This

means that for 1966 the target should be about 15 million kW. This is the background against which the programme of raising installed capacity by the end of the second plan to 6·8 million kW has to be considered. Of the increase of 3·4 million kW between 1955-56 and 1960-61, 2·9 million kW will be from the public sector, 200,000 kW from electricity supply companies and 300,000 kW from industrial establishments which generate their own power. In the public sector hydel power will account for the addition of 2·1 million kW and thermal power for 800,000 kW. In all 42 power generating schemes (new schemes and extensions to existing power stations) will be undertaken during the second plan. These will include 23 hydro-electric and 19 steam power stations. During the next five years *per capita* consumption of electricity is expected to increase from 25 to 50 units. With the construction of 35,000 miles of transmission and sub-transmission lines of voltages of 11 kV and above, the transmission network will be nearly doubled. Energy generation which stood at 6·6 billion kWh before the first plan is expected to increase to 11 billion kWh in 1955-56 and to 22 billion kWh at the end of the second plan.

12. The growth of power consumption is closely related to the growth of industry. From public utility power stations, the industrial consumption in 1950 was 2·6 billion kWh. This rose to 4·6 billion kWh in 1955. It is estimated that in 1960 this will be of the order of 11·8 billion kWh. The proportion of electricity consumed by industries from public utility power stations has increased from 63 per cent in 1950 to 66 per cent in 1955, and is expected to increase to 72 per cent in 1960.

13. For the development of industry on a decentralised basis and for the progressive use of underground water resources for agriculture, electrification in small towns and rural areas is extremely important. By the end of the first plan about 95 per cent. of towns with a population above 20,000 have been electrified. The aim in the second plan is to provide electric supply for small towns with population between 5,000 and 20,000 which are centres for the development of the adjoining rural areas. In this group, there are about 4,000 small towns, of which only 40 per cent have been electrified so far. During the second plan 80 to 90 per cent. of these towns are expected to be provided with electricity. Large-scale electrification of the villages with a population less than 5,000 is a difficult problem. There are over half a million of them spread all over the country. Many of these are far away from the developed power resources. With the planning of the various grid systems covering large areas, power supply will be given to an increasing number of villages which lie in proximity to the grid lines. During the second plan electric supply will reach 7,500 towns and villages

in addition to those now served. The following statement gives the distribution by population of towns and villages to receive electric supply by the end of the second plan:

Population	Total number according to 1951 census	Number electrified in March 1956.	Number likely to be electrified in March 1961
Over 100,000	73	73	73
100,000—50,000	111	111	111
50,000—20,000	401	366	400
20,000—10,000	856	450	816
10,000—5,000	3,101	1,000	2,600
Less than 5,000	5,56,565	4,500	10,000
TOTAL	5,61,107	6,500	14,000

14. For the successful implementation of rural schemes a large amount of cooperative effort is needed from the people in national extension and community projects and in other areas. With the integrated operation of power systems in urban and rural areas, lower rates for supply of power to rural areas should become feasible.

FLOOD CONTROL

15. For a long time flood control was regarded as ancillary to irrigation. The floods which occurred in 1954 and 1955 have given to flood control measures a distinctive place in the irrigation plan. River commissions have been set up for the Ganga and the Brahmaputra and for rivers in the North-West and in Central India for working out flood control schemes for different river basins. Flood control programmes are coordinated by the Flood Control Wing of the Central Water and Power Commission and at the policy level by the Central Flood Control Board. During the second five year plan special attention will be given to schemes for revetments, spurs and embankments which can be undertaken over a short period and to schemes for embankments and for channel improvements which can be undertaken over the next five to ten years. Long-term measures such as construction of storage reservoirs on river and tributaries are being held over for a later period.

SURVEYS, INVESTIGATIONS AND RESEARCH

16. Detailed hydrological investigations for all important river systems will be continued during the next plan. A number of irrigation and power projects included in the second plan have yet to be investigated in full detail. Final decisions on these projects can be taken only after the investigations are completed and the technical and financial aspects become clear. To facilitate progress on this essential work, sufficient financial provision has been made in

the plans of the various States and the Centre. A systematic power load survey on a national basis will be made during the second plan. Irrigation programmes also include schemes for research on various basic problems in irrigation engineering. In view of the extensive power development envisaged and to meet the requirements of the electrical manufacturing industry, the plan provides for research on power engineering. The establishment of a Power Engineering Research Institute is also contemplated.

Public Cooperation

17. Irrigation and flood control programmes provide considerable opportunity for seeking the cooperation of the people. In a vital field of national development, there is vast scope for voluntary effort. Few activities undertaken by the Government are so close to the well-being of the people. Labour cooperatives can be and should become one of the most fruitful methods for augmenting rural incomes and increasing employment in rural areas. Through betterment levies the capital cost of projects can be reduced and larger programmes undertaken with the available resources. The economic use of irrigation supplies accompanied by suitable rotation of crops can help expand the area under irrigation. The effective utilisation of power for small industries will increase employment opportunities and bring real assistance to the artisan and the small entrepreneur.

ANNEXURE

Statement showing by States benefits of Irrigation and Power Projects in the Second Five Year Plan

Name of State	Additional area to be irrigated in Second Plan ('000 acres)	Additional installed generating capacity in Second Plan (KW)
1	2	3
Andhra	290	140,300
Assam	*	21,500
Bihar	1,140	205,000
Bombay	1,000	425,000**
Madhya Pradesh	400	193,000
Madras	140	287,000
Orissa	1,600	247,800
Punjab	1,700	546,000
Uttar Pradesh	1,310	302,000
West Bengal	1,270	241,500**
Hyderabad	610	75,000
Jammu & Kashmir	120	11,000
Madhya Bharat	300	56,000
Mysore	200	47,000
PEPSU	250	†
Rajasthan	1,160	72,800
Saurashtra	40	50,000
Travancore-Cochin	140	161,000
Ajmer	14	170
Bhopal	12	5,000
Coorg	3	†
Delhi	21	†
Himachal Pradesh	20	3,100
Kutch	36	6,300
Manipur	*	340
Tripura	*	400
Vindhya Pradesh	68	23,000
Pondicherry	6	†
NEFA	*	1,150
TOTAL	11,850	3,121,960

*Irrigation to be done by minor works.

**Includes major plant additions by Companies in the electric supply industry.

†Provision has been made for availing bulk supply from adjoining power systems.

Note—The total under 'power' excludes the addition of 300,000 kW anticipated in self-generating industries.

CHAPTER X

INDUSTRIES AND MINERALS

I

INDUSTRIES

Large-Scale Industries

Industries and minerals, together with transport and communications, account for about one-half of the outlay in the public sector during the second five-year plan. In the first five-year plan the emphasis was assigned to agriculture and irrigation and power; in the second plan industrial and mineral development will be the spearhead of economic development. This shift had been envisaged in the first plan; the advance in agriculture, irrigation and power achieved under it has prepared the ground for a substantial advance in industry. The magnitude of investment proposed for industry represents one aspect of this advance. Equally important is the approach towards industrialisation, the directions of emphasis, the pattern of industrial growth and the manner in which the development of modern industry is to be integrated with village and small industries as part of a wider social and economic perspective.

Progress in the First Plan

2. The first five-year plan proposed targets of production and increase of capacity in 41 industries in the private sector. It also provided for a number of industrial projects in the public sector. The index of industrial production stood at 105 immediately before the plan. It rose steadily to 117·2 in 1951, 128·9 in 1952, 135·3 in 1953 and 146·6 in 1954. The average for the first 9 months of 1955 is 159·2. The index of industrial production, which had 1946 as base, has been recently revised with 1951 as base and includes a much larger number of commodities. The revised index shows the level of industrial production to have stood at an average of 125·7 during the first

10 months of 1955. The progress which the rise in the index suggests can be seen from the following illustrative statement:

	Industry	Units	Annual Installed capacity		Acutal production	
			1950-51	1955-56 Estimated	1950-51	1955-56 Estimated
1	Iron & steel—Finished Steel (main producers)	000 tons	1,015	1,300	976	1,300
2	Aluminium Ingots	tons	4,000	7,500	3,677	7,500
3	Cement	'000 tons	3,280	5,100	2,692	4,800
4	Rayon Filament	Mill. Lbs.	4·0	28·1	0·75	16·0
5	Petroleum refining (a)	000 tons	..	3,200	..	2,500
6	Paper & paper board	,,	137	220	114	180
7	Railway Rolling stock.					
	(a) Locomotives	Nos.	..	170	..	170
	(b) Passenger coaches	,,	850	1,200	479	950
	(c) Wagons	,,	6,000	14,000	1,095	12,000
8	Textile Machinery.					
	(a) Carding engines	,,	Nil	792	Nil	690
	(b) Spinning ring frames	,,	396	1,212	260	880
	(c) Looms	,,	3,600	5,000	1,894	2,900
9	Diesel Engines	,,	6,320	21,000	5,540	10,000
10	Automobiles	,,	30,000(b)	35,000	16,519	23,000
11	Bicycles	000 Nos.	120	550	101	500
12	Electric motors	000 HP	149	377	99	240
13	Transformers	000 KVA	370	550	179	520
14	Heavy Chemicals					
	(a) Sulphuric Acid	000 tons	150	268	99	160
	(b) Soda ash	,,	54	90	45	80
	(c) Caustic Soda	,,	19	46	11	35
15	Cotton Textiles					
	(a) Yarn	Mill. Lbs.	1,689	1,775(c)	1,179	1,600
	(b) Mill Cloth	Mill. Yds.	4,744	4,922(c)	3,718	5,200
16	Fertilizers					
	(a) Ammonium Sulphate	000 tons	79	426	46	380
	(b) Superphosphate	,,	123	228	55	100
17	Sugar	,,	1,540	1,750	1,120	1,650
18	Jute Manufactures	,,	1,200	1,200	892	1,000

(a) Data of new units.
(b) Capacity of the two recognised manufacturers only.
(c) Capacity as on 1st January, 1955.

3. A considerable proportion of the increase in production has been obtained through the fuller utilisation of the existing capacity as in textiles, sugar and vegetable oil. This has been possible mainly on account of the increased supply of raw materials. In some industries, as in cement, paper, soda ash, caustic soda, rayon and bicycles, the increase in production is accounted for both by more intensive

utilisation of the available capacity and by additions to production capacity. In some industries lack of domestic demand has held back production compared to targets as in some of the light engineering industries.

4. A number of industrial projects have been completed in the public sector, such as the Sindri Fertiliser Factory, the Chittaranjan Locomotive Factory, the Indian Telephone Industries, the Integral Coach Factory, the Machine Tools Factory, and factories for the manufacture of penicillin, DDT, and newsprint. Projects relating to iron and steel industry and the manufacture of heavy electrical plant, which were to be undertaken in the public sector, took much longer to prepare than had been anticipated when the plan was drawn up. Only about 60 per cent. of the investment of Rs. 101 crores proposed for projects in the public sector is expected to materialise. In the private sector, the total investment over the plan period is likely to be about Rs. 340 crores as against Rs. 383 crores estimated in the plan for new projects, replacement and modernisation.

5. The first five year plan recognised that while the Government would have the leading role in organising and guiding the development of industry, the private sector would also be called upon to make a large contribution. The Industries (Development and Regulation) Act of 1951 provides the institutional framework within which development in the private sector is to be undertaken so as to conform to the objectives of national planning and of social policy. All new undertakings and substantial expansion of existing undertakings are licensed under the Act, which also provides for the setting up of development councils for individual industries. Forty-two industries are now within the scope of the legislation and development councils have been so far constituted for ten industries. The setting up of the National Industrial Development Corporation, the Industrial Credit and Investment Corporation and of eleven State Finance Corporations and the reorganisation of the Industrial Finance Corporation are steps which will enable the Government to control, direct and guide industrial development in accordance with the approved objectives.

Priorities for the Second Plan

6. Deficiencies in the industrial sector and in the organisation for achieving rapid industrial progress revealed by the experience of the first plan will be corrected to a considerable extent by the priorities and the programmes of industrial development proposed for the second five year plan. The most important single weakness was the low level of steel production. This is being made good by the programme for the expansion of steel production through the establishment of three new plants in the public sector and the expansion of

production capacity in the existing units. Although there has been marked progress in the manufacture of locomotives, electric motors and transformers, and in the manufacture of machinery for textiles, cement, sugar and jute industries, on the whole, development in the capital goods sector has generally lagged behind the needs of the economy.

7. If industrial development is to play its true role in the economic progress of the country the State should play a greater part in it. The total provision made by Government under the second five-year plan for industrial and mineral development amounts to about Rs. 710 crores. In addition Rs. 200 crores are allotted for the development of village and small industries. The private sector has a substantial contribution to make, but the public sector should expand both absolutely and relatively. For this task the public sector has to equip itself adequately with managerial and technical personnel and more especially with competent design organisations. Programmes of industrial development have to be viewed in an integrated manner over a period of 10 to 15 years, so that the relationship between the development of capital goods and consumer goods industries and of large-scale and small-scale units can be correctly visualised. Increasingly, development in other sectors of the economy such as agriculture, power, transport and even social services, will turn on the needs and tempo of industrialisation. The achieving of a balanced economy for the country as a whole and for its different regions calls for a carefully considered policy for the location of new industrial units, irrespective of whether they are established through the public sector or the private sector. Thus, as the country enters upon the phase of intensive industrialisation, the formulation of a dynamic and progressive industrial policy for the future becomes the central element in national economic policy. This aspect has already been considered in the first chapter. The priorities of industrial development during the second five year plan, the programmes of development which have been drawn up for industry and minerals, and the place assigned to scientific and technological research have to be viewed against this background.

8. The expansion of industrial capacity during the second plan is conceived in terms of the following priorities:—

(1) development of iron and steel production, machine-building, heavy engineering, and heavy chemicals, including nitrogenous fertilizers;

(2) expansion of capacity in respect of other developmental commodities and producer goods, *e.g.*, cement and phosphatic fertilizers;

(3) modernisation and re-equipment of national industries already in existence, *e.g.*, jute, cotton and sugar;

(4) fuller utilisation of installed capacity in existing industries wherever there are wide gaps between capacity and production; and

(5) expansion of capacity for consumer goods.

In industries falling under (4) and (5) the need to assist production programmes in village and small industries and the requirements of common production programmes in related fields for large and small units have to be kept fully in view.

9. The level of production of iron and steel is a major factor in determining the rate of progress for the economy as a whole. Conditions in India are especially favourable for producing iron and steel at a relatively low cost. Heavy engineering and machine industries are a natural corollary of iron and steel and provide the base for large-scale industrialisation. It is intended that during the third five year plan India should be able to build the essential requirements of steel plants comprising coke-ovens, blast furnace and steel melting shops and machinery for power generating stations in addition to manufacturing in her own workshops the bulk of the machinery and capital equipment needed in different industries. The establishment of the heavy machine building industry which will ensure supplies of industrial plant and equipment from indigenous sources calls for action at several points. In addition to the expansion of steel and aluminium production, which has been already taken in hand, a plan for developing the machine building industry would include the manufacture of ferrous and non-ferrous alloys, tool steel and stainless steel and of specialised rolling facilities. An integrated programme of development would also have to provide for the establishment of heavy foundry, forge and structural shops and gear cutting shops and for the production of a wide range of machine tools. An expert committee has been recently appointed to advise on questions relating to the development of the machine tools industry. Besides the setting up of the necessary production facilities, the most important requirement for a machine building programme is the personnel with requisite experience and training in the preparation of designs of plant equipment. Personnel at lower levels also require opportunities of gaining experience in high precision work. The outline of a coordinated development programme for heavy machine building industries, which will include training of personnel is at present under preparation.

10. A few words may be added in respect of the other priorities mentioned above. Increase in the yield of agricultural crops and the growth of agricultural production generally will turn more and more on the supply of nitrogenous fertilizers. Basic chemicals like sulphuric acid, caustic soda and soda ash are needed in a large number of manufacturing industries. All development involves

construction, so that the demand for cement is likely in each phase to press heavily on the available supplies. Jute and cotton textile industries, although long established, are in urgent need of modernisation of equipment; failure in this direction will reduce earnings of foreign exchange. Much of the unutilised capacity in existing industries at the beginning of the first plan has been brought into use. Some scope for the fuller utilisation of existing capacity, however, still remains, especially in light engineering industries and in certain consumer goods industries. In drawing up programmes for these industries, special care has to be taken to provide for the decentralised sector and for more labour-intensive processes. This aspect is considered more fully in the chapter on village and small industries.

Development Programmes in the Public Sector

11. During the second plan three steel plants of one million tons ingot capacity each will be established in the public sector. In addition, at one of these plants, 350,000 tons of pig iron will be produced. The plant at Rourkela in Orissa is expected to produce 720,000 tons of flat products of steel, hot and cold rolled. It is being designed to operate the L.D. process and will be equipped for the recovery of by-product chemicals from coke-oven gases and coal tar. The hydrogen from the coke-oven gases and the nitrogen from the liquid air plant can be harnessed at a favourable cost for the manufacture of nitro-lime-stone fertiliser. The second steel plant, which is to be located at Bhilai in Madhya Pradesh, is expected to manufacture 750,000 tons of saleable steel mainly heavy and medium products, including 140,000 tons of billets for the rerolling industry. The third plant to be set up at Durgapur in West Bengal is to be equipped to produce 750,000 tons per annum of light and medium sections of steel and billets. Steel production at the Mysore Iron and Steel Works is to be expanded to 100,000 tons. By the end of the second plan, plants in the public sector will produce about 2 million tons of finished steel.

12. The programme for the establishment of heavy engineering industries includes a heavy steel foundry at the Chittaranjan Locomotive Factory for meeting the requirements of railways for heavy castings, and the establishment of heavy foundries, forge shops and structural shops under the auspices of the National Industrial Development Corporation. For the manufacture of heavy electrical equipment consultants' agreement has been reached with a leading British firm and the project report is to be prepared before the end of 1956. The total investment on the project which is expected to take 7 or 8 years for completion, may be of the order of Rs. 25 crores. Heavy transformers, industrial motors, tractions motors and switch gears are likely to be produced before the end of the second plan, but the production of items of equipment like hydraulic

turbines and generators and generators for diesel sets is expected in the early part of the third five year plan. The Hindusthan Machine Tools Limited, which now undertakes the manufacture of high speed lathes of 8½" centre, will increase its production and will also undertake manufacture of lathes of larger sizes and other machines like milling machines and drilling machines. The Government Electric Factory at Bangalore is to be expanded. The Chittaranjan Locomotive Factory is to be expanded, so that its annual output will increase to 200 locomotives. The Hindustan Shipyard is also to be expanded and the rate of construction of ships at Visakhapatnam will be increased. Besides the construction of a dry dock at Visakhapatnam, preparatory steps for the establishment of a second Shipyard are to be taken. The Integral Coach Factory which went into production in October, 1955, will be completed and from 1959 its manufacturing programme provides for the production of 350 coaches per annum. In addition, a provision of Rs. 10·0 crores has been made under the Railway Plan for a metre gauge coach factory.

13. In view of the paucity of coal deposits in Southern India, high priority has been given to the multi-purpose Lignite Project at Neiveli in South Arcot district. Under this project 3·2 million tons of lignite are to be produced and used for (1) generation of power in a station of 211,000 kW capacity, (2) production of carbonised briquettes in a carbonisation plant of about 700,000 tons annual capacity, and (3) production of 70,000 tons of fixed nitrogen in the form of urea and sulphate nitrate. Besides the fertilizer factory to be established in South Arcot, two more fertilizer factories are proposed to be set up. One of these, to be located at Nangal, will produce nitro-lime-stone corresponding to 70,000 tons of fixed nitrogen per annum. It will also produce 7 to 10 tons of heavy water per annum. The third fertilizer factory is expected to be established at Rourkela and will produce nitro-lime-stone equivalent to 80,000 tons of fixed nitrogen per annum. The annual capacity for the manufacture of nitrogenous fertilizers at present is about 85,000 tons, but consumption by the end of the second plan is expected to be about 370,000 tons in terms of fixed nitrogen.

14. Among light and medium industries envisaged under the public sector during the second plan reference may be made to the expansion of the existing D.D.T. plant, Hindustan Cables, the National Instruments Factory and the Indian Telephone Industries and the proposal to establish in Travancore-Cochin a second D.D.T. plant. A silver refinery now under construction will come into production during the second plan and a security paper mill, which is to be constructed, will make the country self-sufficient in the supply of security and bond paper. A teleprinter factory has also been provided under the Ministry of Information and Broadcasting.

15. A number of industrial projects have been included in the plans of States. At Durgapur the West Bengal Government have a project for the production of foundry coke and by-products of coal carbonisation and thermal power based on waste gases. Electric porcelain insulators and transformers are to be manufactured in Mysore. The U.P. Cement Factory, the Bihar Superphosphate Factory, and the paper mill in Andhra are to be expanded and the Praga Tool Factory in Hyderabad is to be reorganised. It is intended that about 35 cooperative sugar factories and some cooperative spinning mills should also be established with the support of Government.

16. The National Industrial Development Corporation has in view a considerable programme of development during the second plan. The Corporation will assist the programme of modernisation in the cotton textile and jute industries. The greater part of its activities is however, of a pioneering nature, being intended to promote the establishment of basic and heavy industries. Projects under investigation by the Corporation include in addition to heavy foundaries, forge and structural shops, refractories, chemical pulp and newsprint, dyestuffs and intermediates, carbon black, sulphur from pyrites and printing machinery. The Corporation also proposes to take steps leading to the establishment of a new unit in the aluminium industry and manufacture of heavy machinery like earth-moving equipment, high pressure boilers, rolls and rolling mill equipment required in ferrous and non-ferrous industries.

Programmes in the Private Sector

17. Programmes for industrial development in the private sector are governed by the scheme of priorities described earlier. By the middle of 1958, on the completion of expansion schemes of the Tata Iron and Steel Company and the Indian Iron and Steel Company, their combined production capacity will increase from 1·25 million tons to 2·3 million tons. The value of industrial machinery produced in the country is expected to increase five to six times. This includes machinery for cotton textiles, jute, sugar, paper and cement industries and the manufacture of electric motors and electric transformers. There are projects also for the manufacture of tea machinery, dairying equipment, roadmaking machinery and agricultural machinery.

18. In the chemical industry, development programmes relate mainly to soda ash, caustic soda, phosphatic fertilisers, industrial explosives, dyestuffs and intermediates. In soda ash and caustic soda, production is expected to increase four times. The expansion of sulphuric acid production is required mainly for meeting the demands of steel, fertilizer, rayon and staple fibre industries. The

third oil refinery at Visakhapatnam will be completed by 1957. With the expansion in the production of sugar industry larger quantities of molasses will become available. It is therefore proposed to increase the production capacity for power and industrial alcohol from 28 million gallons to 36 million gallons. Expansion in the production of D.D.T. and the manufacture of polyvinyl chloride and of butadiene will provide larger scope for the consumption of industrial alcohol.

19. Production will be expanded in a number of consumer goods industries. The output of paper and paper board is expected to be doubled and the production of sugar to be raised from 1·65 million tons to at least 2·25 million tons. Of the increase in sugar production, 350,000 tons are planned to be achieved through cooperative sugar factories. The production of vegetable oils is expected to increase from 1·6 to 1·95 million tons, the main emphasis being on the production of cotton seed oil and of oil from cakes by solvent extraction processes. The output targets for mill yarn and mill cloth are at present under consideration and final conclusions have not yet been reached. The pharmaceutical industry will benefit considerably from steps which are envisaged for developing the manufacture of dyestuffs intermediates. In various synthetic pharmaceuticals, in addition to increased production, stress is being laid on development from basic primary organic chemicals and intermediate products in place of the existing operations which are based generally on penultimate products. The entire programme relating to the production of essential drugs with basic chemicals is now being reviewed by a special committee appointed by the Planning Commission in collaboration with the Development Council for the pharmaceutical industry.

20. The annexure to this chapter sets out targets of production and capacity in relation to industrial development programmes to be undertaken in the private sector and under the auspices of the National Industrial Development Corporation. The total investment on industrial programmes in the private sector is expected to be of the order of Rs. 620 crores over the five-year period. This includes new investment of Rs. 470 crores and an outlay of Rs. 150 crores on replacements and modernisation in existing industries. Of the total investment about Rs. 100 crores are reckoned on account of foreign private investment, including suppliers' credit. Internal resources of industrial undertakings available for investment (including replacements) are estimated to amount to about Rs. 300 crores. New capital issues may provide Rs. 80 crores and miscellaneous sources such as advances from managing agents, etc. about Rs. 80 crores. Loans from the Industrial Finance Corporation, State Finance Corporations and the Industrial Credit and Invest-

ment Corporation may provide about Rs. 40 crores and about Rs. 20 crores may be provided from the equalisation fund, and as capital or loans by Central and State Governments. These estimates are necessarily extremely provisional.

21. From the brief statement given below it will be seen that the second five year plan will be a period of intensive and many-sided industrial effort. This programme is large and comprehensive enough to provide scope for a rapidly expanding public sector and also to utilise fully the resources in personnel, and experience available in the private sector. Its execution according to schedule and with due regard to economy in the use of resources will go a long way towards giving the country a strong, well-balanced and rapidly developing industrial structure.

	Industry	Unit	1955-56 Capacity estimated	1955-56 Production estimated	1960-61 (target) Capacity	1960-61 (target) Production
1	Iron & Steel					
	(a) Finished Steel (Main producers)	000 tons	1,300	1,300	4,500	4,300
	(b) Pig Iron for foundries	000 tons	380	380	750	750
2	Structural Fabrication	tons	2,42,000	1,80,000	5,00,000	5,00,000
3	Heavy Foundry-cum-Forge shops					
	(a) Steel Foundry	.. ,,	..	..	15,000	15,000
	(b) Forging shops (3)	,,	..	..	12,000	12,000
	(c) Cast Iron Foundries	,,	..	..	10,000	10,000
4	Ferro-Manganese	,,	28,000	28,000	1,60,000	1,60,000
5	Aluminium	,,	7,500	7,500	30,000	25,000
6	Locomotives	Nos.	170	170	300	300
7	Automobiles	Nos.	35,000	23,000	57,000	57,000
8	Heavy Chemicals					
	(a) Sulphuric Acid	000 tons	268	160	500	450
	(b) Soda ash	tons	90,000	80,000	2,80,000	2,50,000
	(c) Caustic soda	,,	46,000	35,000	1,33,000	1,20,000
9	Fertilisers					
	(a) Nitrogenous (Fixed Nitrogen)	,,	85,000	76,000	3,90,000	3,20,000
	(b) Phosphatic as P_2O_5	,,	35,000	20,000	1,20,000	1,20,000
10	Ship-building	GRT	..	50,000 (51-56)	..	90,000 (56-61)
11	Cement	000 tons	5,100	4,800	12,000	10,000
12	Refractories	tons	3,43,800	2,60,000	10,00,000	8,00,000
13	Petroleum Refining	mill. tons	3·625	2·5	4·31	3·8
14	Paper and Paper board	000 tons	220	180	450	350
15	Newsprint	tons	30,000	10,000	60,000	60,000
16	Rayon					
	(a) Rayon filament	mill. lbs	28·1	16·1	55·0	55·0
	(b) Staple fibre	,, ,,	12·0	12·0	25·0	25·0
	(c) Chemical pulp	000 tons	..	..	30·0	30·0
17	Diesel Engines	H.P.	2,00,000	1,00,000	2,16,000	2,05,000
18	Bicycles	000 Nos.	500	500	765	1,000*
19	Electric Motors	H.P.	3,76,700	2,40,000	6,00,000	6,00,000
20	A.C.S.R. Conductors	tons	15,370	9,000	15,370	15,000

*2,50,000 bicycles are expected to be produced in the decentralised sector so that the total production would be 12,50,000.

II

MINERALS

1. The rate at which mineral development takes place and the extent to which minerals are used for industrial production are among the principal indicators of a country's economic development. Development programmes for minerals and for industries have to be closely integrated. The fact that on the eve of the second plan, when ambitious industrial programmes are envisaged, the exploration of India's mineral resources is imcomplete, emphasises the urgency of obtaining more detailed knowledge of them. During the second five-year plan, on account of the requirements of steel and transport, the development of coal production will claim the first attention.

Coal

2. The programme of industrial development in the first five year plan called for a relatively small increase in the volume of coal production. The main problems related to the transport of coal from pitheads to consuming centres. Coal production increased from 34·3 million tons in 1951 to 36·8 million tons in 1954, but the transport lags were never wholly eliminated.

3. The bulk of the production of coal is in the private sector, the public sector accounting only for 4·5 million tons. The Industrial Policy Resolution of 1948 envisaged that the future expansion of coal would be entirely in the public sector except where, in the national interest, the Government wished to secure the cooperation of private enterprise. On the basis of the targets proposed in the second five year plan for industries, for thermal power generation and for railways, the demand for coal at the end of the second five year plan is estimated to be about 60 million tons. This represents an increase of about 23 million tons over the level of production at the end of the first plan. It has been proposed that of this amount about 15 million tons should be produced in the public sector and about 8 million tons in the private sector. The exact distribution between the two sectors is, however, still under consideration.

4. In drawing up the detailed programme for coal production, an important consideration is to ensure the economic use of rail transport, especially since the bulk of coal production comes from West Bengal and Bihar. The coal production programme has been

drawn up so as to develop collieries in a number of different states. This will be seen from the following statements of the expected distribution of coal output at the end of the second plan as compared to the distribution in 1954-55.

(million tons)

	Output in 1954	Output in 1960-61	Increase
ASSAM	0·50	0·50	..
WEST BENGAL			
Darjeeling	0·03	0·03	..
Raniganj	12·22	18·16	5·94
BIHAR			
Jharia	13·19	16·69	3·50
Karanpura	1·44	6·00	4·56
Bokaro	2·38	2·88	0·50
Giridih	0·26	0·26	..
Other small fields in Bihar	0·14	0·14	..
MADHYA PRADESH			
Chindwara and Chanda	2·25	2·25	..
Korba	..	4·0	4·0
Sasti	0·07	0·07	..
Central India Coalfields	2·31	5·31	3·0
ORISSA	0·52	0·52	..
HYDERABAD			
Singareni	1·43	2·93	1·5
RAJASTHAN			
Bikaner	0·03	0·03	..
TOTAL	36·77	59·77	23·0

5. The target of 60 million tons includes the requirements of coking coal of the iron and steel industry and of other essential consumers. The production of this quality of coal has been pegged at 14 million tons and the actual production is a little short of this limit. As against this, the demand of essential consumers is only about 3·5 million tons and the balance of production is consumed by Railways and industries and a small quantity is exported. The expansion of steel production in the second plan will require 9·73 million tons of coking coal, while the requirements of other essential consumers have been estimated at 1·68 million tons. Thus, the total requirements amount to 11·41 million tons in terms of clean washed coal or about 16·5 million tons in terms of raw coal. In the interests of conservation and the need to supply coal of fairly uniform quality to the steel industry, washing of metallurgical coal has become necessary. It has therefore been decided that generally all coking

coal will be washed and to that extent provision has to be made for the setting up of washeries. One washing plant is proposed to be located in the Bokaro colliery to meet the requirements of the Rourkela plant and to some extent of the Bhilai plant. The location of additional washing capacity has yet to be determined.

OTHER MINERALS

6. For minerals other than coal, the following targets proposed for the second five year plan are intended to provide for internal requirements and in some cases for exports:—

Mineral	Unit	Production 1950	Production 1954	Production 1960-61	Export target for 1954-55	Export target for 1960-61
Iron ore	(Million tons)	2·97	4·31	12·5	0·9	2·0
Manganese ore	do.	0·88	1·41	2·0	0·94	1·5
Limestone	do.	N.A.	N.A.	18·5*	..	..
Gypsum	do.	0·21	0·61	1·86*	..	..
Bauxite	(000 tons)	64	75	175	2·0	..

*The figures are based on the capacity envisaged for industries using these minerals and do not cover the requirements of miscellaneous consumers, data regarding which are not available.

7. During the second plan it is proposed to organise intensive surveys of the country's mineral resources. In established industries such as coal, new production has to come mainly from virgin areas, so that detailed prospecting of selected coalfields is an essential part of the production programme. The Geological Survey of India and the Indian Bureau of Mines will be expanded considerably. Details of their expansion programmes are under consideration. Their programmes of work will include investigations of all important minerals by geological and geophysical methods and drilling wherever necessary and the investigation of ground water resources and of the geological aspects of irrigation and power projects. Selected areas will be prospected in detail by the Indian Bureau of Mines. The more important investigations proposed are as follows :

Coal.—Detailed geological investigations followed by drilling of (a) Korba, (b) South Karanpura, (c) Raniganj, (d) Chirimiri, (e) Ramgarh, (f) Jhilimili and (g) North Karanpura in connection with coal production in the public sector and of the coalfields of Kota, Singrauli, Umaria, Sohagpur, Kanhan and Pench Valleys, Hyderabad, Talcher, Godavari valley and Assam for purposes of qualitative and quantitative assessment.

Copper.—Detailed mapping and prospecting of the copper deposits of Khetri, Daribo (Rajasthan) and detailed investigation of the old workings at Gani in the Kurnool district of Andhra.

Manganese.—Continuation of the detailed mapping accompanied by drilling of the manganese ore belt in Madhya Pradesh.

Chromite.—Detailed investigation of the chromite area of Southern Mysore and of the Naushai chromite deposits in Orissa.

Gypsum.—Detailed investigation by drilling of the gypsum deposit at Nagaur (Jodhpur) and Bikaner (Rajasthan).

Lead-Zinc.—Investigation by drilling of the lead-zinc deposits of Zawar (Rajasthan).

Magnesite.—Investigation by drilling of the deposits in the Almora district (Uttar Pradesh).

Tin.—Detailed investigation of the known occurrences in Bihar.

Oil

8. The exploration and development of the country's oil resources is one of the important tasks in the second five year plan. Explorations in the West Bengal basin are at present being carried out by the Standard Vacuum Oil Company with the participation of the Government of India. New oil wells have been struck recently in Assam and negotiations for participation with the Assam Oil Company are in progress. Exploration for oil has also been started in the Jaisalmer area of Rajasthan and is proposed to be extended to Kutch and Punjab. Industrial and economic development will proceed much more rapidly if oil exploration is attended by favourable results.

Survey of India

9. The work of the Survey of India has considerable bearing on the development of mineral resources, although it extends to several other fields as well. Maps are required for geological and geophysical investigations of minerals, mineral oil and groundwater and of the geological aspects of engineering. They are also required for other purposes like the development of forest resources, railways and roadways, irrigation and power projects. The work of the Survey of India, which is one of the oldest departments of the Government of India, was considerably dislocated during the second world war with the result that large arrears of work accumulated. In the post-war years additional demands have been placed on the organisation. To meet this situation, a programme of expansion and mechanisation was approved in 1953. The programme of

mechanisation is nearing completion. In view of the work load expected during the second plan, further expansion and mechanisation programmes, at a cost of Rs. 107 lakhs, have been approved for in the second five year plan. Provision has also been made for the reorganisation of the Geodetic and Research Branch of the Survey of India which is responsible for keeping up-to-date the levelling and triangulation work as well as magnetic data and for maintaining tidal and gravity surveys.

ANNEXURE

Industrial Development in Private Sector and under the N. I D. C. during the Second Plan

Industries	Unit	Estimate of annual capacity as on 31st March, 1956	Estimated Production in 1955-56	Estimated requirements in 1960-61	Targets for 1960-61		Remarks
					Annual capacity	Production	
1	2	3	4	5	6	7	8
HEAVY INDUSTRIES							
I. METALLURGICAL AND HEAVY ENGINEERING INDUSTRIES.							
(1) *Iron and Steel*							
(a) Saleable steel by main producers in private sector.	Mill. tons	1.25	1.25	4·5	2·3	2·3	
(b) Pig Iron for foundries.	Tons	380,000	380,000	700,000	..	250,000	
(2) Structural Fabrication.	Tons	242,000	180,000	500,000	500,000	500,000	Capacity for heavy structurals to be developed by N.I. D.C. also
(3) *Heavy Foundry-cum-Forge Shops.*							
(a) Independent Steel Foundry.	Tons	..	..	16,000	15,000	15,000	To be developed by the N.I.D.C. in the public sector.
(b) Forging Shops (3)	Tons	..	..	12,000	12,000	12,000	
(c) Cast Iron Foundries	Tons	..	..	10,000	10,000	10,000	

1	2	3	4	5	6	7	8
(4) Ferro-Manganese	Tons	28,000	N.A.	160,000	160,000	160,000	**
(5) Aluminium	Tons	7,500	7,500	30,000	30,000	25,000*	**
(6) *Automobile, motor cycles and ancillary industries.*							
(a) Automobiles . . .	Nos.	35,000	23,000	57,000	57,000	57,000	80 per cent Indian content
(b) Motor Cycles & Scooters. .	Nos.	11,000	Negligible.	11,000	11,000	11,000	
(7) *Rly. Rolling Stock & other equipment.* Locomotives . . .	Nos.	50	50	..	100	100	
(8) *Industrial Machinery.*							
(a) Cotton Textile. . . .	Value (Rs. crores)		4·0			17·0	
(b) Jute Textile. . . .	Do.		0·06 (1954)			2·5	
(c) Cement	Do.		0·56 (1954)			2·0	
(d) Sugar	Do.		0·28 (1954)			2·5	
(e) Paper	Do.		Negligible.			4·0	
(f) Printing	Do.						
(g) Others (Heavy Machinery including machine tools).						2·0	To be developed by N.I.D.C.
(9) *Industrial Bearings.* Ball and roller bearings. . .	Nos.	600,000	700,000	1,800,000	600,000	1,800,000	Do.

*Production lower on the basis that the additional 10,000 ton capacity at Hirakud or a new 10,000 tons unit will come into production by the middle of 1960 and operate to full capacity for only 6 months in 1960-61.

**Part of the new capacity to be developed by the N.I.D.C.

II. Heavy Chemical Industries.							
(10) *Acids and Salts.* Sulphuric Acid	Tons	268,175	160,000	450,000	500,000†	450,000†	
(11) *Alkalies.*							
(a) Soda Ash.	Tons	90,000	80,000	250,000	280,000	250,000	
(b) Caustic Soda.	Tons	46,000	35,000	120,000	133,000	120,000	
(12) *Fertilizers*							
(a) Nitrogenous (Fixed N.).	Tons	15,000	14,000	370,000	45,000	45,000	
(b) Phosphatic as P_2O_5.	Tons	35,000	20,000	120,000	120,000	120,000††	
(13) *Miscellaneous Heavy Chemicals*							
(a) Calcium Carbide.	Tons	5,000	3,000	24,000	25,000	24,000	
(b) Potassium Chlorate.	Tons	2,300	1,500	4,200	4,200	4,000	
(c) Industrial Explosives.	Tons	Nil.	Nil.	5,000	5,000	5,000	
(d) Carbon disulphide.	Tons	4,700	3,000	14,000	14,000	14,000	
(e) Carbon Black.	Tons	800	200	12,000	8,700	8,000	To be developed by N.I.D.C.
(14) Benzol recovery and rectification.	Mill. Glns.	2·4	1·5		10.0	9·0	Partly under N.I.D.C. and partly under public sector & comprises road tar, naphthalene, creosote oil, etc.
Coal-Tar Distillation.	Tons	75,000			150,000		
(15) *Dyestuffs and Intermediates.*							
(a) Dyestuffs	Mill. lbs.	22·0	3·0	32·0	22·0	20·0	Partly under N.I.D.C.
(b) Intermediates	Do.	..	..	..	..	44·0	
III. Other Industries (Heavy)							
(16) Petroleum Refining	Mill. Tons (of crude-processed)	3·625	2·5		4·31	3·8	

†Includes the capacity of plants in public sector like the sulphuric acid plant of Bihar superphosphate factory and auxiliary plants in steel works.

†† About 7,000 tons of super expressed as P2 O5 from the Bihar Superphosphate Factory included.

1	2	3	4	5	6	7	8
(40) Electric Fans	No	439,000	275,000	450,000	439,100	450,000	
(41) Coated Abrasives.	Reams	195,000	80,000	150,000	255,000	150,000	
(42) Grinding Wheels	Tons	1,370	850	1,500	1,720	1,500	
(43) Glass & Glass-ware (other than Bangles)	Tons	289,320	100,000	160,000	330,000	160,000	
(44) Plastics ;—synthetic Moulding Powder.	Do.	1,200	700	7,800	2,400	2,400	
(45) Power & Industrial Alcohol.	Mill. Galls.	28·0	17·0	30·0	36·0	18·0 (Power Alcohol). 12·0 (Industrial Alcohol).	
(46) *Paints and Varnishes.*							
(a) Oil-based paints, varnishes and enamels.	Tons	65,000	40,000	60,000	65,000	60,000	
(b) Nitrocellulose lacquers	Galls.	852,000	275,000	500,000	852,000	500,000	
(47) Plywood	Mill. sq. ft.	144 to 150	100	100 (Tea chests only)	160	150 (Including commercial plywood)	
(48) *Starch and Glucose.*							
(a) Starch	Tons	80,400	50,000	100,000	100,000	100,000	
(b) Glucose liquid	Do.	8,350	300	4,000	8,350	4,000	
(c) Glucose Powder	Do.	600	..	2,600	2,600	2,000	
(49) *Vegetable Oils.*							
(a) Solvent Extraction from cakes.	Tons	82,500*	5,000	..	800,000*	64,000	*In terms of oil cakes processed.

(b) Cotton seed oil.	Tons	N.A.	10,000	..	30,000	30,000	
(c) Total including all sources.	Mill. tons	N.A.	1·6	1·95@	..	1·95	@Including 170,000 tons for export.
(50) Vanaspati	Tons	450,000	250,000	350,000	450,000	350,000	
(51) Soap : Organised Factories.	Tons	240,000	100,000	250,000 to 300,000	240,000	200,000	
(52) Matches	Mill. Gross boxes	35·3	32·0	35·0	35·3	35·0*	*Includes decentralised sector.
(53) *Tanning & Footwear* (organised sector only)							
(a) Footwear (Western Type)	Mill. pairs	5·97	3·2	100·0	5·97	5·97	
(b) Foot wear (Indian type).	Do.	N.A.	2·2		N.A.	2·2	
(54) Salt.	Thousand mds.	85,000	100,000			100,000	Includes production in the public sector also.
(55) *Biscuits and Confectionery*							
(a) Biscuits.	Tons	40,000	12,000	15,000	40,000	15,000	
(b) Confectionery.	Tons	40,000	8,000	10,000	40,000	10,000	

General :—All capacity and production figures relate to organised factories and do not include the decentralised sector.

CHAPTER XI

VILLAGE AND SMALL INDUSTRIES

Allocations and Organisation

In the First Five Year Plan an attempt was made to set out the lines along which development programmes for village and small industries could be undertaken as part of the national plan. During the past three years new organisations for implementing and guiding these programmes have been at work and useful experience has been gained. In relation to the considerably larger programme of village and small industries to be carried out during the second plan the various problems and the development programmes have been recently reviewed by a committee appointed by the Planning Commission. The report of the Village and Small Scale Industries (Second Five Year Plan) Committee, has considered questions bearing on the basic approach towards the development of village and small industries in the context of planned economic development and has carried a stage further the statement of policy formulated in the First Five Year Plan.

2. In making its proposals the Committee kept three important aims in view, namely,

(i) to avoid as far as possible, during the period of the second plan, further technological unemployment such as occurs specially in the traditional village industries,

(ii) to provide for as large a measure of increased employment as possible during the plan period through different village and small industries; and

(iii) to provide the basis for the structure of an essentially decentralised society and also for progressive economic development at a fairly rapid rate.

Two main issues are involved in this approach—the manner in which it is proposed to bring about technological changes and the concept of a decentralised sector in industry. The Committee envisages that even in the traditional village industries to the extent immediately possible technical improvements should be adopted, and for the future there should be a regular programme of advance to better techniques. At the same time, where new capital investment has to be made it should be as far as possible on improved equipment, the improvement being in some cases in the nature of additions to or adaptations of existing equipment.

3. The concept of a decentralised economy is not necessarily related to any given level of technique or mode of operation. What it implies is that technical improvements would be adopted in such a manner and to such extent as would permit comparatively small units which are widely scattered or dispersed throughout the country to undertake economic activities. On this view, whatever the villagers can undertake by way of improved industry in their own village should be organised on a village basis. The progressive expansion and modernisation of rural industry, the Committee suggests, can be best brought about by the spread of small industrial units, along with the necessary services, among large villages or small towns located all over the country. Industrial expansion in the periphery of large towns can scarcely be said to reduce the concentration of industry. What is needed, therefore, is a pattern of industrial activity in which a group of villages converging on their natural industrial and urban centre form a unit or, to use the Committee's expression, "a pyramid of industry broad-based on a progressive rural economy". Economies of scale and organisation could be secured by small units through cooperation in various forms.

4. Broadly speaking, the approach to village and small industries during the second plan is based on three related and inter-dependent concepts, namely, (1) common production programmes for large and small units in the same industry, (2) desirability of a decentralised sector of industrial production, and (3) positive programmes of support for small units through technical guidance and assistance in finance and supplies, research and training, and cooperative forms and organisation. Difficult questions may sometimes arise in the application of the idea of a common production programme, for instance, whether a limit should be set to the expansion in capacity of large units in an industry and at what point, whether cesses or excise duties should be imposed and at what level, whether spheres of production should be reserved and in what form, and so on. These differences however, relate not so much to principles as to the concrete problems thrown up when they are sought to be applied in given situations.

5. For carrying out the positive programmes for the promotion of village and small industries a network of organisations has been brought into existence by the Central Government during the past three or four years. These are, (1) the All India Khadi and Village Industries Board, (2) the All India Handicrafts Board, (3) the All India Handloom Board, (4) the Small Scale Industries Board, (5) the Coir Board and (6) the Silk Board. Of these, the Coir and the Silk Boards are statutory bodies. Expenditure on the development

of small industries incurred during the first five year plan through these Boards is shown below:

(Rs. Crores)

	1951-55	1955-56 (Budget)	1951-56
Handloom	6·5	4·6	11·1
Khadi	4·9	3·5	8·4
Village industries	1·1	3·0	4·1
Small-scale industries	2·0	3·3	5·3
Handicrafts	0·4	0·6	1·0
Silk and sericulture	0·8	0·5	1·3
TOTAL	15·7	15·5	31·2

6. The draft plans for the second five year period prepared by the various Boards were considered by the Village and Small Scale Industries Committee which had been set the task of preparing proposals, by industries and wherever possible, by States, for the utilisation of resources which were expected to be available during the second plan for the development of village and small industries. The Committee recommended programmes and allocations involving a total outlay of about Rs. 260 crores. The financial provision actually made in the plan is Rs. 200 crores. The distribution of the outlay between different industries as recommended by the Committee and as tentatively proposed at present is given in the statement below.

Distribution of outlay for village and small industries.

(Rs. Crores)

Industry	As recommended by the Village and Small Scale Industries Committee	As tentatively proposed in plan.
Handloom :		
Cotton weaving	80	63
Silk weaving	5	1·5
Wool weaving	3	2
	88	66·5

Khadi :		
Wool spinning and weaving	2·2	
Decentralised cotton spinning and khadi	23	
	25·2	
Village Industries :		48·4
Hand pounding of rice		
Vegetable oil (ghani)	8·3	
Leather footwear and tanning (Village)	13	
Gur and Khandsari	6·2	
Cottage match	1	
Other village industries	11	
	47·5	
Handicrafts	11	9
Small-scale industries	65	55
Sericulture	6	5
Coir spinning and weaving	2	1
General schemes (administration, research, etc.)	15	15
TOTAL	260	200

7. In the revised plans of States the total allocation made for village and small industries is about Rs. 127 crores. These allocations will be revised so as to accord more closely with the pattern of distribution visualised in the Village and Small Scale Indutsries Committee's report. The objects to be achieved are that the allocations between industries should broadly conform to the Committee's scheme, that the various Boards should be able to operate effectively in their chosen fields and, at the same time, in the States, the entire programme of village and small industries development should be worked as a coordinated and well-knit programme in terms of their districts and local plans. In this connection there are some questions of procedure which will be resolved in the near future. In each group of industries a further distinction will be necessary between programmes which Central agencies (Ministries or Boards concerned) will implement themselves, for which specific allocations will be necessary, and those which will be implemented by States, but on the advice of the various agencies which have been set up by the Central Government.

8. The allocations proposed by the Committee for the different village and small industries included provision for working capital.

The total amount of the working capital needed by the end of the plan for holding stocks of materials and meeting other requirements is estimated to be about Rs. 65 crores, which includes Rs. 30 crores, for Khadi and village industries, Rs. 17 crores for hand-loom and Rs. 10 crores for small-scale industries. These are very rough esti- mates. The Reserve Bank of India is now able and willing to assist in providing short-term and even medium-term finance for cottage and small-scale industries through the appropriate cooperative agencies. As early as possible the bulk of the working capital need- ed should come from cooperative and other banking agencies and it is important that organisationally in the field of operations of each Board action should be directed towards this objective. During the intervening period of course, it will be necessary for Government to meet the needs of working capital especially for production organised through cooperatives and registered public institutions.

9. While a great deal of initiative and guidance have to come from the Ministries and the Boards, it is necessary to emphasise that the development of village and small industries is a task to be under- taken by the States in the main at the district and area level and in the closest integration with other development programmes. The Village and Small Scale Industries Committee took care to point out that the programme which they outlined was so much a part of the normal activities of planning, finance and administration that it could not for long be dissociated from the normal administrative arrangements for carrying out the plan. In the States they recom- mended self-contained departments looking after all the problems of village and small industries, closely linked to the State cooperatives agency, and supported at the district level by at least one whole- time officer. The latter would be concerned with the administrative and organisational functions within the district for the group of programmes falling under village and small industries. At present in many States, the available organisation, technical and administra- tive is weak at the State level. At the district level it is scarcely equipped to undertake the responsibilities envisaged in the second five year plan. In fact the stage has reached when each state has to build for itself, in association with the national extension move- ment, an efficient organisation for village and small industries, which can operate directly in small towns as well as in rural areas.

10. The process of building up this ground organisation would be expedited if, by way of a first step, as recommended by the Village and Small Scale Industries Committee, an appropriate coordinating committee including the chairman of all the Boards is constituted in the near future with a view to assisting in coordination in policy, finance and administration over the entire field comprised in the

village and small industries programme. The programmes of development contemplated by the various Boards prior to the report of the Village and Small Scale Industries Committee may now be reviewed by them in the light of the Committee's recommendations, decisions taken by the Central Government on any policy questions that bear on the programmes, and the allocations by industries for the period of the second plan. This has to be done as a matter of some urgency. Schemes for the development of village and small industries included in the plans of States follow generally the priorities indicated in the past by the Boards and the pattern of assistance formulated by them. But both these aspects have to be looked at afresh by the Boards and the Ministries concerned and the Planning Commission so that clear guidance should become available to the States as to the lines on which the proposals included by them in their revised plans might need to be amended to conform to the priorities and the pattern of assistance approved for the second five year plan. Since a review may be undertaken it is unnecessary in this Draft Outline to describe in detail the programmes of the various Boards or to refer to the observations and suggestions made in respect of them by the Village and Small Scale Industries Committee. It may be useful, however, to touch briefly upon three general questions which bear at present on the implementation of programmes for village and small industries. These are:

(1) techniques for the implementation of common production programmes for related large and small industries,

(2) the place of cooperatives in the programme for village and small industries, and

(3) industrial estates.

Action taken to give a measure of protection to small industries or to organise cooperatives or to establish industrial estates is intended to facilitate positive measures of assistance to artisans and small industrial units. During the past three years a considerable amount of attention has been given to this aspect in their respective fields by the various Boards. A study of the measures taken and their effectiveness in strengthening the economic position of the small unit is being undertaken with a view to formulating suggestions for the second five year plan.

Techniques in Common Production Programmes

11. The description 'common production programme' was suggested in the First Five Year Plan as a convenient way of expressing the desirability in each branch of industry, of considering together the respective contributions which large and small units should make towards the total requirements of the community and the measures

which should be taken to enable small industries to fulfil the targets proposed for them. These measures fall broadly into two groups, namely, (1) those intended to provide a degree of preference or assurance of a market for small units, and (2) those intended to provide positive assistance through supply of raw materials, technical guidance, financial assistance, training, research, organisation of marketing, etc. Both sets of measures are equally important and, indeed, from a wider standpoint it is the expectation of success over a period of the second group of measures which affords a special justification for restrictions and other similar devices.

12. In the First Five Year Plan, with reference to large units in an industry, it was suggested that one or more of three main steps might be needed:

(1) reservation or demarcation of spheres of production,

(2) non-expansion of the capacity of a large-scale industry, and

(3) imposition of a cess on a large-scale industry.

While the second and the third of these proposals have their main applications on behalf of traditional village industries, reservation or demarcation of spheres of production was thought of more especially in the context of small-scale units using power and machinery. These units were classified in the First Five Year Plan into three categories, namely:

(1) those in which small-scale production has certain advantages and is not affected by large-scale industry to any great extent,

(2) those in which small-scale industry is concerned with the manufacture of certain parts or with certain stages of production in a manufacturing process in which the predominant role is that of large-scale industry, and

(3) those in which small-scale industry has to meet the competition of the corresponding large-scale industry.

For building up a decentralised sector in modern industry, within the limits of technical possibilities, demarcation of spheres of production is a source of material assistance to small units which are either competitive to large units in the manufacture of particular articles or should be integrated with large units in terms of stages of production or manufacture of ancillary parts. This approach has to be adopted in appropriate fields whether the large units are in the public sector or in the private sector.

13. Proposals for non-expansion of the capacity of a large-scale industry have to be considered from two different points of view.

The first is the extent to which such a measure would enlarge the market for small units. It may sometimes be that for lack of organisation or other similar reasons advantage may not be taken of even the existing market or the additional market which the limitation of expansion of large units may provide. The second aspect to consider is that a given volume of production of a commodity may be required in the economy. In this connection the likely trends of future demand are specially relevant during a period of development involving considerable public and private outlay. Within the limits set by the need to avoid shortage of goods on the one hand, and the extent to which production in small units can be organised effectively to take advantage of a larger market, in any individual case, the balance of public advantage will determine whether and at what level the capacity of a large-scale industry should be limited. In applying the policy there is need for review from time to time in the light of changing economic conditions. Licensing of industries should therefore be extended to the field of agricultural processing, especially for rice mills, oil mills, flour mills, etc. In this connection reference may be made to two proposals for limiting expansion which bear on the field of village industry and are at present under examination.

To encourage handpounding of rice the Village and Small Scale Industries Committee has recommended that new sheller or combined sheller-huller mills or huller mills or single hullers should not be allowed to be set up and no increase in production above the present level should be permitted during the plan period, except when handpounding cannot be suitably organised, for instance, where labour is scarce or supply to a new industrial area has to be arranged. In this connection the recommendations of the Rice Milling Committee are also under consideration. In respect of the village oil industry, the conditions in this industry are being investigated by a special committee appointed by the Central Government and the committee's findings are awaited.

14. The objects in imposing a cess or an excise duty on the production of a large industry are, as the Village and Small Scale Industries Comittee have pointed out, firstly, to raise funds from the consumers of a product; secondly, to take away a portion of the additional profits accruing to large units in consequence of a limit on expansion of capacity; and thirdly, to provide for a limited price differential in favour of small units. The imposition of a cess or an excise duty in appropriate situations is a well-recognised fiscal device and each case has to be considered on its merits. The question of subsidies which are sometimes proposed raises issues of a different character. The Village and Small Scale Industries Committee has

not expressed itself in favour of new measures for introducing subsidies on production or rebates on sales. The cost of schemes of protection afforded to any activity, the Committee remarks, should be readily measurable and all schemes of protection for normal economic activity should be so planned that they can ultimately be withdrawn. There are a few limited exceptions which the Committee has suggested, as, for instance, the proposal for a small subsidy for improved equipment in handpounding of rice. In the proposals of the Village and Small Scale Industries Committee, for all the village industries taken together, the total amount of production subsidy envisaged is estimated to be about Rs. 8 crores. Rebates on the sale of handloom and khadi are estimated to involve expenditure respectively of about Rs. 20 crores and Rs. 7 crores.

15. The case of the Ambar Charkha stands on a different plane, the issue here being that the use of the Ambar Charkha and the introduction of decentralised spinning on a large scale will make possible additions to full-time rural employment on such a substantial scale as to justify the expenditure which may be involved during the period of the plan. The technical and economic factors connected with this proposal are under investigation and recently a scheme for research and training has also been sanctioned by the Central Government at a cost of Rs. 30 lakhs. As recommended by the Village and Small Scale Industries Committee, the results of the investigations now in progress are being awaited and the targets for the output of cloth and yarn in the organised textile industry will be determined in a few months after a clearer assessment becomes possible.

16. The various devices for giving effect to the idea of common production programmes which have been discussed above represent only a part and, indeed, a diminishing part of the totality of action to be taken for the development of village and small industries. They are intended to be in the nature of inescapable holding operations to enable the sector of village and small industries to gain the necessary strength to develop on its own. They have to be supplemented, wherever feasible, by common marketing arrangements through co-operative organisations in which the State may participate. A great deal of attention must be given to ensuring that the positive measures of organisation and assistance succeed and succeed without loss of time.

Industrial Cooperatives

17. It is common ground that in village and small industries cooperatives have to be developed to the greatest extent possible. The record of the Handloom Board in encouraging the formation of weavers' cooperatives illustrates some of the conditions needed for

the growth of cooperation in small industry. The number of handlooms included in the cooperative fold increased from 626,119 in 1950-51 to 788,664 in 1953-54 and 878,984 in 1954-55 and is expected to reach a million by the end of the first plan. For the formation of cooperatives the Handloom Board has provided assistance to weavers in share capital and in working capital. From 75 to 85½ per cent of the share value is contributed as loan by the Government and the balance is provided by the weaver. As regards working capital, the Government provides Rs. 200 per cotton loom and Rs. 500 per silk loom. Weavers' cooperative organisations at different levels are federated so that there are central agencies available for supplying raw materials, offering technical advice, arranging for credit through cooperative agencies and providing better marketing facilities. In the coir industry, where the middleman has to be eliminated, 119 primary coir marketing societies, 24 husk cooperative societies and 2 central coir marketing cooperative societies have been recently formed. In some States, progress has been made among particular classes of artisans, as among tanners and leather workers in Bombay, Uttar Pradesh and Punjab, and among palm gur manufacturers in Madras. On the whole, however, the progress achieved has been slow.

18. A combination of factors is required, first for establishing industrial cooperatives and secondly, for maintaining and developing them. In almost all branches of small industry there is scope for supply and marketing cooperatives. Producer cooperatives however, have greater possibilities in some fields than in others. In the sector of small industry using power and machines, at the present stage of development, there is considerable room for persons who combine enterprise with craftsmanship and also for educated persons who may set up as small entrepreneurs. Supply and marketing cooperatives are in themselves an important means for aiding small units and securing steady improvement in techniques, including quality control, holding of stocks against future demand and credit. Where supply and marketing cooperatives exist it is possible also for the Government to undertake a measure of financial responsibility, as envisaged by the Village and Small Scale Industries Committee, to provide a limited State guarantee with a view to maintaining continuity of production.

19. Both for organising supply and marketing cooperatives and producer cooperatives, it is essential that industries departments in the States should build up efficient extension organisations which can reach artisans in the main urban centres and in groups of villages. An extension organisation is particularly needed in rural areas where, because of the intimate relationship, between community production and community demand, favourable conditions

exist for forming artisans' cooperatives. A small beginning in this direction is being made in 25 pilot areas selected under the national extension and community development programme. The setting up of cooperatives of either type will enable small industry to utilise in increasing measure financial assistance from the Government and from institutions and also guidance from technical service institutes, training centres and mobile technical services. Special attention should, therefore, be devoted by the staffs of industries departments and those working on behalf of the various Boards to contact artisans and bring them together into whatever form of cooperatives may, in given conditions, be found feasible. Cooperation in this, as in other activities, is less a stage than a process of development and, given sound economic and organisational foundations, one successful step in cooperation leads rapidly to another.

Industrial Estates

20. The conditions in which the bulk of small industry, whether in towns or villages, is undertaken under conditions which are inimical to working efficiency, maintenance of uniform standards in production and economic utilisation of materials and equipment. These deficiencies have to be remedied. Artisans and small entrepreneurs can be given assistance and facilities of various kinds through the establishment of industrial estates in urban areas and of community workshops in large and centrally located villages. The primary object of the various positive measures for developing village and small industries is to eliminate as far as possible the handicaps of small units in such matters as credit, supply of electricity at reasonable rates, repair facilities, training of workers, availability of technical assistance and guidance and of the results of research. With these handicaps removed, the natural advantages of small units by way of initiative, low labour cost and adaptability should improve their competitive position so that, with State policy being in favour of the growth of a decentralised sector, village and small industries could develop into an integral and well-organised sector of the industrial economy.

21. In their plans State Governments have included a number of schemes for industrial estates, for which a preliminary scheme was prepared by the Small Scale Industries Board. A few estates are proposed near large cities such as Bombay, Delhi and Kanpur; some estates are intended to be located at medium-sized towns such as Agra, Nagpur, Jaipur, Vijayawada, Baroda, Indore and Gwalior. The rest of the estates are proposed to be established at relatively small centres such as Kalyani in West Bengal. An industrial estate is at present under construction at Rajkot in Saurashtra. It is suggested that before finally determining the location of industrial

estates proposed under the plan State Governments may take into consideration the observations on the subject of the Village and Small Scale Industries Committee, to which reference has been made earlier.

22. To a large extent the advantages of industrial estates will accrue to small industries using power and machinery which fall within the province of the Small Scale Industries Board. The line between industries which are the special concern of one or the other of the Boards is not always easy to draw. It would therefore be useful if the coordinating committee of the chairmen of the various Boards were to consider the present proposals and make recommendations, so that industrial estates succeed in rendering the maximum assistance to small units. The experience of industrial estates in the United Kingdom has been encouraging specially since the war, but successful Indian experience does not yet exist to any great extent. Financial provision exists in the plan, but since the outlay involved is likely to be considerable, from the start the programme should be placed on a sound basis.

CHAPTER XII

TRANSPORT AND COMMUNICATIONS

THE transport sector of the economy includes railways, roads, road transport, ports and harbours, inland water transport, shipping and civil air transport. Communication services, which it is customary to consider along with transport, include posts and telegraphs, overseas communications, broadcasting and meteorology. In the development of transport and communications in the past the dominant considerations were trade and administration. Since the second world war the transport system has been increasingly oriented to serve the needs of industrial development. The second plan will carry this process much further. It is common experience that when an economy develops rapidly, the pressure on transport increases to an even greater extent. During a period of rapid development an efficient system of transport can yield high dividends if it is coordinated effectively with programmes for increasing production. Yet, this is the period when it is most difficult to meet the large claims which both transport and industry make on the available resources. Keeping in view the many pressing claims on limited financial resources available including foreign exchange, in the second plan it is proposed to allot for transport and communications a sum of Rs. 1384 crores which will amount to 29 per cent. of the total outlay under the plan. Of this, Rs. 900 crores have been provided for railways, Rs. 268 crores for roads, road transport and tourism, Rs. 97 crores for shipping, ports and harbours, light houses and inland water transport, Rs. 44 crores for civil air transport and Rs. 75 crores for communications and broadcasting.

RAILWAYS

2. All forms of transport have to be expanded, but the greatest burden falls on the railways which have been rightly described as the nation's life-line. With a capital of about Rs. 960 crores and a total mileage of about 35,000 Indian Railways are the largest national undertaking, and will always be one of the principal foundations on which the national economy rests. They were subjected to a great deal of strain during the decade which preceded the first five-year plan. The past few years have therefore been devoted more to rehabilitation and modernisation of the rolling stock and to meeting new needs as they arose than to the extension of the railway network.

3. The success of the railways in fulfilling the targets set for the first plan has placed them in a position to organise themselves to cope with the requirements of the second five-year plan. At the beginning of the first plan, the rolling stock of the railways consisted of 8209 locomotives, 19,225 coaches and 222,441* wagons. The railways expect to procure during the plan period 1609 locomotives, 4837 coaches, and 61,773 wagons. These will be used partly for replacement of over-aged stock which can no longer be put to service. Among the principal projects completed during the first plan are the construction of 380 miles of new lines, the restoration of 430 miles of dismantled lines, the conversion of 46 miles of narrow gauge lines into broad gauge, the Chittaranjan Locomotive Works which have already produced 332 locomotives and the Integral Coach Factory which went into production in October, 1955. Among projects in progress are the electrification of the Calcutta suburban lines and the main line upto Burdwan, the Ganga-Bridge, the construction or restoration of 427 miles of lines and the conversion of 52 miles of metre gauge into broad gauge lines.

4. The principal task for the railways in the second plan is to meet the increasing demands for both goods and passenger traffic. Having regard to the production targets in various fields, the volume of goods traffic is expected to increase by about 51 per cent, from 120 million tons at the end of the first plan to about 181 million tons in 1960-61. The railways expect to make a big contribution towards meeting the increasing demands by large-scale procurements of rolling stock, increases in line capacity and improvement in operational efficiency. But it is at present surmised that with the funds allotted to them, they may not be in a position to carry all the additional traffic expected to be generated during the plan period and the facilities provided by them may fall short of requirements by about 10 per cent. in respect of rolling stock and by about 5 per cent. in respect of line capacity. In regard to passenger traffic, the plan provides for an increase of 15 per cent in passenger train services over the five-year period. This will enable the railways to meet the anticipated increase in passenger traffic but will not afford relief needed in overcrowding. Relief, however, may be expected in respect both of goods and passenger traffic by the retention of replaced over-aged stock which is found in serviceable condition. The position will be kept under review and necessary adjustments in the railway plan will be made in line with developments in other sectors.

5. The second important task of the railways during the second plan is to construct new lines. The programme provides mainly for new lines required in connection with major industrial projects like steel plants, coal mines, etc. In all, about 850 miles of lines

* n terms of 4 wheelers.

will be constructed during the plan period. If additional funds become available later it may be possible to extend this programme and take up some more lines for opening up backward areas.

6. In the second plan, the railways expect to achieve further progress in the rehabilitation of over-aged, obsolete assets, which was the main objective of the railways during the first plan. The railways expect to have on line, at the end of the first plan, 9,262 locomotives, 2,66,049 wagons and 23,779 coaches. Of these about 32 per cent. locomotives, about 19 per cent. wagons and about 26 per cent. coaches will be overaged and due for replacement. During the second plan, 2,258 locomotives 1,07,247 wagons and 11,364 coaches will be obtained, of which 1,352 locomotives, 23,852 wagons and 6,447 coaches will be for the purpose of rehabilitation of overaged stock. The percentage of overaged stock to total stock on line will thus be reduced to 18.3 in case of locomotives, 8.5 in wagons and 10.5 in coaches.

7. The plan provides for a large programme for the renewal of obsolete track. Speed restrictions have to be imposed on lengths of line laid with obsolete track and these result in slowing down movements and reducing line capacity. The arrears of track renewals from the first plan, together with the renewals which become due in the second plan period will aggregate to about 13,000 miles. The plan provides for the renewal of 1600 miles of track each year or a total of 8,000 miles over the five year period. This will enable the railways to reduce considerably the mileage over which speed restrictions have to be maintained

8. The railway plan lays special emphasis on line capacity works and programmes relating to electrification and improved signalling. The plan provides for the doubling of 1600 miles and the conversion of 265 miles of metre gauge lines into broad gauge. Additional crossing stations, loop lines, extensions of loops at a number of stations and extensive remodelling of a number of yards will also be undertaken. In sections of the railway system where line capacities have reached saturation point, plans for electrification will be carried out. These envisage the electrification of about 800 miles. It is proposed to provide diesel motive power on 1293 miles of railway lines. With a view to ensuring safety of operation and improving line capacities, provision has also been made for installation of improved signalling including automatic signalling.

9. Attention has been given during the first plan to the need to make travel, especially for passengers using the third class, more comfortable by providing additional amenities. Within the resources

available this programme will be pursued during the second plan. Adequate provision is also being made for staff welfare schemes. As the largest single employer in the country the railways have to give due priority to this programme. The total number of railway personnel is expected to increase from about 10·5 lakhs at the end of the first plan to over 12 lakhs at the end of the second plan. About 60,000 quarters, including those at the townships required in connection with new workshops are expected to be built during the second plan. About 6,000 houses are expected to be added at the new crossing stations and on newly built lines. As part of the welfare programme, 13 hospitals and 65 dispensaries with about 1600 beds will be added during the second plan period.

10. A railway development plan of the dimensions indicated above will make heavy demands on trained personnel and much administrative strengthening and reorganisation will be needed. The plan will also call for careful coordination with other forms of transport as well as with industrial and other projects in the plan. Even though the railways will use the internal production capacity of the country to the maximum extent, foreign exchange of the order of about Rs. 425 crores will be needed and imports of steel will be a material factor in the actual fulfilment of the plan.

Roads and Road Transport

11. The development of roads and road transport is of considerable importance for the growth of the rural economy and the breaking down of barriers between States and regions. The Nagpur plan proposed in 1943 that over a period of 20 years no village in a well-developed agricultural area should remain more than 5 miles from a main road. Since the political integration of the country was completed, it has been possible to take a more comprehensive view of road development. Special attention has been given to the provision of missing links and bridges and to the improvement of existing roads. Progress in this field during recent years has been rapid and for the construction of village roads much local enthusiasm and cooperation have been enlisted.

12. At the beginning of the first plan India had 97,000 miles of metalled roads and about 147,000 miles of unmetalled roads. During the first plan about 6,000 miles of new surfaced roads and about 20,000 miles of low-type roads are expected to be added. In the national highways programme of the Central Government 640 miles of missing links and 40 major bridges have been constructed and 2,500 miles of existing roads improved. Considerable progress has also been made on a number of important roads outside the national highways system and in the execution of the programme of inter-State roads and roads of economic importance which was

taken up two years ago. By the end of the first plan about one-third of the target set in the Nagpur plan may be said to have been achieved.

13. Substantially larger resources have been provided for the road programme in the second five-year plan. In the national highways programme works begun during the first plan will be completed, and in addition work will be undertaken on 600 miles of missing links and 60 major bridges and improvement of 1700 miles of existing roads and widening of 3750 miles of carriageway. In the programme of roads other than national highways, 1,150 miles of roads will be constructed and over 500 miles upgraded. Programmes in the States provide for construction of about 8,000 to 9,000 miles of surfaced roads. In national extension and community project areas as well as through the local development works programme, with the support of the people, large additions to the village road system will be made. At the end of the second plan about two-thirds of the target set in the Nagpur plan is expected to be realised.

14. During recent years many rural areas have come to be connected with towns and with one another through developments in road transport that have taken place through the initiative of private operators. Most State Governments are anxious to expand the passenger services operated by them. The Planning Commission has recommended that programmes for taking over existing road transport services should be suitably phased. To the extent a State Government does not itself propose to operate road transport services, the terms on which licences are granted to private operators should be liberalised. Government road transport should be managed by corporations in which the railways and private operators participate along with the State Governments. During the second plan the development of goods transport is to be left to private operators and nationalisation of these services is not contemplated. Measures for developing both passenger and goods transport services and augmenting their employment potential have been recently reviewed. Decisions have been taken with regard to liberalisation of restrictions under the Code of Principles and Practice and avoidance of double taxation of vehicles operating on inter-State routes. The Central Government proposes to take permissive powers for the regulation of inter-State road transport under the Motor Vehicles Act. Programmes of road transport development to be undertaken by States as part of their plans will add about 5,000 vehicles to their existing fleets. They also envisage the construction of several workshops.

Ports and Harbours

15. At the time of Partition India had five major ports with a total capacity for handling cargo of 20 million tons per annum.

During the first plan the construction of a sixth major port at Kandla has been completed and the total capacity has been raised to 26 million tons. Modernisation and rehabilitation programmes have been undertaken at all the major ports. During the second plan the capacity of the major ports is to be increased by about 30 per cent. In addition, development programmes for a number of minor ports in the maritime States are to be carried out. The plan also includes an extensive programme for the development of light-houses, all of which are to be gradually taken over by the Central Government.

SHIPPING

16. The progress of Indian shipping has been slower than had been hoped for immediately after the war. Since 1950 coastal trade has been reserved for Indian tonnage, but the shipping available is not sufficient to carry the traffic. At the beginning of the first plan, India had a tonnage of 3,90,707 G. R. T. The target laid down for the first plan was 6,00,000 G. R. T. This is likely to be achieved, but some of the ships will be put into commission during the second plan period. In the second plan, after allowing for the obsolescence of 90,000 G.R.T., the total tonnage is expected to reach about 9,00,000 G.R.T. At the end of the second plan, the proportion of the overseas trade to be carried by Indian tonnage will rise to about 15 per cent.

17. The Hindustan Shipyard is to be expanded so as to increase the rate of construction to four ships per annum of the modern type. A dry dock is to be constructed at Visakhapatnam. It is also proposed to take preparatory steps for the construction of a second shipyard.

INLAND WATER TRANSPORT

18. Inland waterways had an important role in the transport system of India up to the middle of the nineteenth century. With the development of railways and the withdrawal of large amounts of water for irrigation at the upper reaches of rivers, the contribution of water transport has been steadily declining. In the north-eastern regions of the country, however, water transport continues to play a significant part. It is estimated that about 5,000 miles of river routes in India are navigable by modern power craft. At present, 1,557 miles of rivers are navigable by mechanically propelled vessels and 3,587 miles of river stretches are navigable by large country boats and have the possibility of power development. Navigation can be developed on shallow stretches by either deepening the channels, by regulation works, canalisation and dredgings or by using craft especially designed to negotiate shallow stretches. The first set of measures entails heavy capital outlay and maintenance

of dredgings. Attention has, therefore, been focussed mainly on the use of specially designed craft. The Ganga-Brahmputra Board which was set up in the first plan period, has already taken up three experimental projects. Two of these projects are on the Upper Ganga and the feeder rivers of Assam and the third is a project in Assam for a passenger and vehicular ferry vessel on the Brahmputra. The craft for the Upper Ganga project will be brought into use early in the second plan period. The specifications of the craft for the other two projects are being worked out. During the second plan period, it is proposed to execute development works in the Ganga-Brahmputra region. These will include dredging of important waterways, provision of aids to navigation, such as radio-telephone, automatic beacons and the development of inland port facilities at selected places. The plan also provides for the development of the Buckingham Canal as well as its linking with the Madras harbour and the development of West Coast canals.

Civil Air Transport

19. Air transport was nationalised in 1953. All parts of the country are linked by services operated by the Indian Airlines Corporation whose air routes account for a total mileage of 15,209. The services provided by the Air India International reach out to 15 countries and cover a total route mileage of 16,673. Both Corporations have sizeable programmes for purchase of additional aircraft and for improving their operational facilities.

20. A large number of civil aviation works were undertaken during the first plan. These included the construction of 9 new aerodromes and considerable improvements at a number of existing aerodromes. During the second plan, 8 new aerodromes are to be constructed and tele-communication and other equipment is to be provided at several aerodromes. Special programmes for aeronautical training form part of the plan.

Posts and Telegraphs and other Communications

21. During the first five year plan, the various communication services registered a notable advance. The number of post offices increased from 36,000 to 53,000, telephone connections from 168,000 to 260,000 and public call offices from 338 to 1,200. In the field of overseas communication services, radio telegraph circuits have been established with 12 countries, radio telephone circuits with 16 and radio photo service with 5 countries. At the Indian Telephone Industries, annual production capacity for 30,000 exchange lines and 50,000 telephone instruments has been developed.

22. These and other communication programmes are to be further expanded during the second five-year plan. The number of post offices is expected to increase to 73,000 and the number of telephone connections to about 4,50,000. Public call offices are to be provided in all important tehsils and police stations and in towns with a population of 20,000 or more. The network of open wire trunks and carriers is to be extended and considerable progress is envisaged in respect of trunk cables and carrier cables. The number of telegraph offices which rose from 3,592 to nearly 5,000 during the first plan is to be increased further so as to serve, amongst others, all places with a population of 5,000 or more. In respect of overseas communication services direct telegraph, telephone and radio photo services are expected to be established with 25 more countries.

23. The Meteorological Department will also develop its activities in a number of directions, including modernisation of equipment at important aerodrome observatories, setting up of departmental workshops, development of medium range forecasting methods and the establishment of an astronomical observatory and a naval observatory.

Broadcasting

24. The broadcasting network of the All India Radio includes 26 radio stations. The expansion which has taken place during the first plan ensures that each language has been provided with at least one transmitting station and that fairly effective coverage is available to almost all the regions. The aim during the second plan is to extend the services now available for all the languages to as wide an area as it is at present possible to reach. For areas in which terrain conditions are difficult short-wave transmitters are to be established. To meet the growing demands of national programmes and for ensuring countrywide listening of national broadcasts, a 100 kW short-wave transmitter as well as a 100 kW medium-wave transmitter will be set up at Delhi and 50 kW short-wave transmitters will be provided at Calcutta, Bombay and Madras. External services will also be expanded. Finally, to promote rural listening, community receivers are to be located in villages with a population of 1,000 and above. About 72,000 sets of this type are expected to be installed during the period of the second plan.

CHAPTER XIII

SOCIAL SERVICES

INTRODUCTION

THE outlay on social services during the second plan will be about twice the provision made in the first plan. Despite the large increase in the magnitude of the plan the proportion which expenditure on social services (apart from rehabilitation of displaced persons) bears to the total outlay on development in the public sector will be maintained. The role of social services in bringing about greater equality of opportunity and in imparting strength at the roots to the social and economic structure is widely recognised. As programmes for social services under the first plan have gone forward, the importance of voluntary service and organised community effort and of non-official leadership has become increasingly clear. The development of social services is a responsibility to be undertaken in the main by urban and rural communities in terms of their own priorities and resources. Public authorities at various levels have indeed a vital share in providing the basic services in health, education and housing and in aiding sections of the population which have been at disadvantage in the past. Their true role, however, is to supplement and stimulate the effort which each community should put forth as part of the scheme of national planning.

2. During the second plan about Rs. 946 crores have been provided for social services, the distribution being as follows:—

	(Rs. crores)
Education	320
Health—including urban water supply	267
Housing	120
Labour	26
Welfare of backward classes	90
Social welfare	28
Rehabilitation	90
Social schemes relating to educated unemployment.	5
	946

I

HEALTH

The objective of health programmes is to improve the general level of health by expanding the basic health services and bringing them within the reach of the people. More specifically, the aims which the second five year plan emphasises are:-

(1) control of communicable diseases which affect large sections of the community,

(2) improvement of environmental hygiene,

(3) provision of adequate institutional facilities to serve as a base for organising health services,

(4) provision of facilities for the training of medical and health personnel, and

(5) family planning.

As against Rs. 131 crores provided in the first plan for health programmes, the second plan provides Rs. 267 crores. The programmes which have been drawn up are comprehensive and far-reaching in their scope.

2. During the second five year plan it is intended to provide for larger hospital accommodation and to improve the services in hospitals, including staff, accommodation, equipment and supplies. For this purpose the plan provides about Rs. 40 crores. It is estimated that in 1951 there were 8600 medical institutions in the country with about 113,000 beds; in 1955-56 the number of institutions is estimated to be about 10,000 with about 1,25,000 beds. These figures represent an increase during the first plan, of 16 per cent in institutions and of 10 per cent in beds. At the end of the second plan the number of institutions is likely to be about 12,600 and the number of beds about 155,000 so that the increase expected is about 26 per cent in institutions and about 24 per cent in hospital beds.

3. The provision of rural medical and health care is the central problem in health planning. This object is to be achieved through the setting up of 'health units' in national extension and community projects. These units perform a variety of services and in their work curative and preventive aspects are integrated. During the first

plan, in all 725 health units are expected to be set up. According to the tentative plans which have been drawn up and are now under consideration, it is proposed to establish over 3,000 health units in community project, national extension and other areas. State Governments also propose to convert 131 of the existing dispensaries into primary health units and to set up a number of secondary health units.

TRAINING PROGRAMMES

4. The key to the extension of health services and their efficient operation is the availability of trained personnel in all categories. Training programmes have, however, to be linked with employment opportunities which are likely to become available. At the end of 1950 there were about 59,300 registered medical practitioners. The number had increased by the end of 1954 to about 67,000. It is estimated that by the end of the first plan there will be about 70,000 registered medical practitioners. At the rate of one doctor for every 5,000 population at the end of the second plan about 80,000 doctors will be needed. Allowing for supervisory posts, the number of doctors needed will be about 90,000. That is to say, each year 4,000 more doctors are required. The number of medical colleges has increased from 30 in 1950-51 to 40 in 1955-56 and the number of annual admissions from 2,500 to about 3,500 providing at present, for a net annual out-turn of about 2,000 doctors. State plans provide for the expansion of about 28 medical colleges and attached hospitals. The Central Government will assist the setting up of 6 new medical colleges and the establishment of full-time teaching units and of Preventive Medicine and Psychiatric Departments in medical colleges. Provision has also been made for completing the All India Institute of Medical Sciences and upgrading certain departments of medical colleges for post-graduate training and research.

5. Shortages in personnel other than doctors have been more marked and are likely to persist longer than in the case of doctors. At the end of 1954 the numbers registered in different categories in the States were 20,793 nurses, 24,290 midwives, 756 health visitors, 4,468 dais and 946 nurse-dais. As norms to aim at there should be one hospital bed for 1,000 population, one nurse and one midwife for every 5,000 population and one health visitor and one sanitary inspector for 20,000 population. For ancillary categories of personnel, figures in the last column in the table below are still somewhat distant. They illustrate, however, the character of the present shortages and the need for accelerated and sustained action

if even elementary services are to reach the mass of the people in any adequate degree.

	1950-51	1955-56	1960-61	Number needed
Doctors	59,000	70,000	80,000	90,000
Nurses (including auxiliary nurse midwives)	17,000	22,000	31,000	80,000
Midwives	18,000	26,000	32,000	80,000
Health visitors	600	800	2,500	20,000
Nurse-dais and dais	4,000	6,000	41,000	80,000
Health assistants and sanitary inspectors	3,500	4,000	7,000	20,000

During the second plan, an attempt is being made to achieve substantial advance in the provision of training facilities for different classes of personnel. Arrangements are being made for the training of nurses, midwives, pharmacists, sanitary inspectors and other technicians at medical colleges and at the larger hospitals which are not in use as teaching hospitals. There are at present 6 dental colleges in the country and they need to be more adequately staffed, equipped and housed. It is proposed to establish 4 new dental colleges and expand two existing colleges. The plan provides about Rs. 40 crores for various training programmes.

Control of Communicable Diseases

6. During the first five year plan an effective beginning was made in the attack on communicable diseases. The principal diseases in this group are malaria, filariasis, tuberculosis, leprosy and venereal diseases. As compared to Rs. 22 crores allotted in the first plan for the control of communicable diseases, the second plan provides about Rs. 55 crores.

7. The malaria control programme envisages the institution of 200 units, each protecting a million persons through indoor spraying with DDT and treatment of malaria cases with anti-malarials. At the end of the first plan 162 units will be in operation. The second plan provides about Rs. 27 crores for malaria control operations. For filariasis control, 65 control units are to be set up in addition to the 13 control units and 22 survey units established during the first plan. The control programme consists of residual spraying with insecticides and larvicides and oral administration of Hetrazon tablets to the people residing in the affected areas. The plan has allocated nearly Rs. 9 crores for the control of filariasis.

8. In tuberculosis control, the primary emphasis is on prevention. This is to be achieved by extensive B.C.G. vaccination carried out

by 130 B.C.G. teams, establishment of clinics, organisation of domiciliary treatment, demonstration and training centres and, to a limited extent, provision for isolation and rehabilitation. During the first plan 166 clinics have been set up; their number is proposed to be raised to about 340 in the second plan. Five demonstration and training centres have been provided during the first plan; 10 more centres are proposed to be established in the second plan. The plan provides about Rs. 14 crores for tuberculosis control.

9. The programme of leprosy control is to set up field control units which would survey and determine the extent of incidence of the disease and also provide domiciliary treatment to the cases as well as to contacts. During the first plan period 35 centres would have been set up; in the second plan it is proposed to provide 100 additional control units in areas where there is a fairly high incidence of leprosy. The plans of States also provide for additional beds for leprosy patients and for the improvement and opening of leprosy homes, sanatoria and colonies. The Central Government has set up a Central Leprosy Teaching and Research Institute. The total provision in the plan for leprosy control exceeds Rs. 4 crores.

10. In some parts of the country venereal diseases are a large and urgent problem. With the recent advances in diagnosis and cure of this group of diseases, it is possible to reduce the incidence of infection if certain public health techniques are integrated in the programme of venereal diseases control. Proposals in the plans of States for the control of venereal diseases need to be reviewed from this aspect.

Environmental Hygiene

11. Water supply and sanitation programmes have a high priority in the development of health services. The first plan provided for these programmes—Rs. 26 crores for urban areas and Rs. 22 crores for rural areas. In rural areas many villages have improved their water supply through local development works and through the national extension and community development programme. In urban areas water supply schemes have been hampered to some extent by insufficiency of materials and by lack of adequate organisation in a number of States. The plans of States included 168 urban water supply schemes and the Central Government approved or took preliminary action in respect of about 150 urban water supply schemes. For the second plan, State plans have provided about Rs. 27 crores for rural water supply schemes and Rs. 23 crores for urban water supply. At the Centre an amount of Rs. 25 crores is being provided for urban water supply and sanitation schemes, and provision is being made to the extent of about Rs. 10 crores for assistance to Corporations mainly towards their water supply and sanitation programmes.

INDIGENOUS SYSTEMS OF MEDICINE

12. Plans of States have provided over Rs. 5 crores in support of indigenous systems of medicine, which continue to cater to the needs of large numbers of persons in urban and rural areas. During the second plan improvements will be effected in 13 Ayurvedic colleges and 255 dispensaries and 5 new colleges and about 1100 dispensaries will be set up. The Central Government has provided for research and higher education in indigenous systems.

NUTRITION

13. The most important single factor in the maintenance of health is nutrition. With the improvement in the production of cereals in the first plan, there will be greater stress now on increasing the production of protective foods such as milk, eggs, fish, meat, fruits and green vegetables. Priority in improving nutrition is to be given to vulnerable groups such as expectant and nursing mothers, infants, toddlers, pre-school children and children of school-going age. The resources available for development are still too limited to permit more than a small beginning in these directions. Health programmes provide to some extent for the distribution of milk powder and food supplements like codliver oil and vitamin tablets, especially to expectant and nursing mothers, infants and toddlers.

14. The Indian Council of Medical Research is giving special attention to problems of research in nutrition. The plan provides resources for this purpose. The Council has selected the following projects as deserving of high priority for implementation during the second plan:-

(1) survey and prevention of protein malnutrition;

(2) growth and physical development of Indian children;

(3) control of dietary and nutritional diseases like lathyrism, endemic fluorosis, etc;

(4) clinical nutrition research;

(5) food technology (par-boiling of rice);

(6) mid-day meals for school children;

(7) studies on the evaluation of nutritional status and studies into certain aspects of energy metabolism and protein, vitamin and mineral metabolism;

(8) expansion of nutrition research laboratories.

The Ministry of Health has a programme for the control of goitre in certain parts of the sub-Himalayan belt.

MATERNAL AND CHILD HEALTH

15. Maternal and child health programmes are proposed to be integrated with the primary health unit services. The plans of States

provide for the setting up of about 2100 maternity and child health centres. At present pediatrics is the weakest link in the maternal and child health services. It is therefore proposed to start four regional training centres in pediatrics to give adequate training for medical as well as associated personnel in preventive and curative pediatrics. These centres will be associated with a number of properly staffed and equipped maternal and child health centres and will offer pediatric care in an area around the training centre.

Family Planning

16. The programme of family planning which was started during the first plan will be continued on a substantially increased scale. The programme includes:-

(1) grants to State Governments, local authorities and voluntary organisations for opening family planning clinics,

(2) training of personnel,

(3) public education on family planning and population problems,

(4) research in human fertility and in the means of regulating it, and

(5) demographic research, including the study of inter-relationships between social, economic and population changes, reproductive patterns and attitudes and motivations affecting the size of the family and suitable procedures for the rapid education of the people.

Nearly Rs. 4 crores have been provided for the family planning programme. It is expected that about 300 urban and 2,000 rural clinics will be set up during the second plan. With the object of carrying forward the programme of family planning, two committees were set up at the Centre, one concerned with population policy and the second for research and programmes relating to family planning.

Health Education

17. The provision of medical and public health facilities will achieve the objective of promotion of positive health in the measure in which the people take full advantage of these facilities and change their health practices and attitudes. This calls for a special effort towards general health education. The Health Education Bureau at the Centre will provide technical guidance, services and training facilities, and will produce health education materials. About Rs. 75 lakhs has been provided for health education programmes in the second five year plan.

II

HOUSING

Clean housing conditions have far-reaching effects on public health, on community life and on levels of productivity. The problem of providing adequate resources for bringing about improvements in urban and rural housing conditions presents enormous difficulties in a period of intensive economic development. There are two main aspects to be considered: (1) size and scope of housing programmes to be undertaken during the plan period by the Central and State Governments and other public authorities and (2) determination of policies designed to provide houses to persons in low-income groups at rents they can afford and enabling persons of small means to build houses for themselves. Through the provision of cheap plots of land, credit facilities, guidance in the use and choice of building materials and the production of standardized parts much can be done to stimulate housing activity without impinging too heavily on the limited resources available to the State for expenditure on development.

2. Both in urban and in rural areas housing is a problem of vast dimensions. There are 54 million houses in rural areas, of which a large number need reconditioning or rebuilding. In the villages, relief and assistance in the provision of sites are especially urgent in the case of scheduled castes and other backward classes. In national extension and community project areas, 18,000 rural houses have been built and 95,000 houses have been reconditioned. Work in these areas has shown that, with a little guidance and some measure of assistance, village communities can provide themselves with better sanitation, drainage and lighting and introduce improvements in rural housing conditions in a relatively short period. Much can be done in rural areas through cooperative self-help, demonstration of improved housing and use of local materials and skills and of improved techniques.

3. In urban areas complex problems had to be faced. Without systematic town planning, control over the use of land and over building operations has become increasingly expensive for public authorities as well as for private individuals to build houses. The result is that with increase in population the shortage of houses,

already acute, is further accentuated. The housing problem in towns is part of the wider problem of urban development in relation to economic planning. Town planning and the preparation of master plans for all urban areas are essential if the dangers of haphazard and unplanned growth are to be met. In areas served by large river valley projects and for metropolitan areas and major centres of industry, regional plans have to be prepared. A pilot study in the preparation of regional plans is to be shortly undertaken in the Damodar Valley.

4. In urban areas especially the housing problem has grown steadily from year to year over the past two decades. The population of towns increased by 10·6 millions between 1931 and 1941 and by 16·3 millions between 1941 and 1951. During these decades the number of occupied houses in urban areas increased respectively by 1·8 and 1·7 millions. Even apart from the question of the quality of housing, the quantitative shortage increased considerably during the decade 1941-51. Alongside war-time developments and Partition there has been accelerated urban growth. Between 1951 and 1961 the total urban population is expected to increase by about 33 per cent so that, in the absence of effective measures the housing situation may become more difficult.

5. The precise extent of the housing shortage in urban areas has not been determined. This is because systematic housing statistics do not exist and there are few reliable surveys of housing conditions. Information in respect of the progress of private construction is also lacking. Special efforts should now be made to organise the flow of accurate statistics so that co-ordination in policy and assessment of progress are effectively ensured. For an urban population of 62 million there were in 1951 about 10 million houses. The shortage of houses in that year is roughly estimated to be about 2·5 million.

6. In recent years in private construction there has been greater emphasis on houses for middle income and higher income groups, so that the shortage has become even more marked than before in respect of the needs of those in the lower income brackets. Initial steps have, however, been taken during the first plan for providing housing for these groups. The two principal programmes of housing taken up by the Central Government are the subsidised industrial housing scheme and the low income group housing scheme. Under the former scheme, the construction of 77,000 units was approved up to the end of November 1955, of which 34,000 units have been so far completed. Under the low income group housing scheme, loans to the extent of Rs. 21 crores have been sanctioned and Rs. 5 crores have been disbursed, the programme so far undertaken being estimated to provide about 40,000 units. These are small but important

beginnings. A useful start has also been made with the training of masons and other building industry personnel. It is proposed to expand these training facilities. The National Building Organisation which was set up in 1954 is engaged in pooling the results of building research and studying methods of achieving economies in construction.

7. The Central and State Governments have also constructed houses for their employees in administrative services as well as in industrial and commercial undertakings. The Ministry of Rehabilitation have also undertaken the construction of houses on a large scale for refugees from West and East Pakistan. The following table gives rough figures of the total number of houses constructed during the first plan period in the public and the private sectors:—

Public construction		*Number of houses/tenements.*
Industrial Housing	...	77,000
Low Income Group Housing	...	40,000
Refugee Housing	...	323,000
Housing by Central and State Governments	...	300,000
TOTAL	...	740,000
Estimated private construction	...	750,000
TOTAL	...	1,490,000

8. For the decade 1951-1961 the number of houses required in urban areas is estimated to be about 8·9 million. This takes into account the shortage estimated for 1951, estimated increase in population at 33 per cent, depreciation on existing houses at the rate of 1 per cent per annum and replacement of 11 per cent of existing houses. During the period 1951-56 about 1·5 million houses are estimated to have been constructed. During the second five year plan 2·1 million dwelling units are expected to be constructed by public authorities and private individuals and organisations in urban areas. Thus, so far as can be estimated at present, in 1961 the shortage of houses in urban areas may be about 5·3 millions. In other words, speaking roughly, in 1961 the shortage may be about twice as much as it was in 1951.

9. Details of housing programmes for the second plan are being worked out at present. The plan has allotted Rs. 120 crores for housing programme to be carried out in the States and under the auspices of the Ministry of Works, Housing and Supply. There are, in addition, housing programmes of the Ministries of Rehabilitation, Railways, Defence and Labour and the construction programmes of

the Central Public Works Department. It is estimated that within the period of the second plan about 1·2 million dwelling units will be constructed by the public authorities and private construction is expected to provide about a million dwelling units, thus making a total of 2·2 million units. A tentative break-up is given below:

		Number of units (in thousands)
Subsidised industrial housing.	..	142
Low income group housing.	..	68
Slum clearance and sweepers' housing.	..	110
Plantation housing.	..	11
Rural housing.	...	120
Middle income group housing.	..	5
Central and State Governments and local bodies.	..	400
Central Ministries (other than Works, Housing and Supply Ministry).	..	176
Plantations and Mines.	..	177
Estimated private construction.	...	1000
TOTAL	...	2209

The provisional allocation of Rs. 120 crores allotted for housing in the second plan is as follows:

		(Rs. crores)
Subsidised industrial housing	..	50
Low income group housing	..	40
Slum clearance and sweepers' housing	..	20
Rural housing	..	5
Middle income group housing	..	3
Plantation housing	..	2

10. The working of the subsidised industrial housing scheme is at present being reviewed. Attention has been drawn to the fact that although according to the scheme the Cenral Government provides a subsidy to the extent of 25 per cent. of the cost of construction, including the cost of land, and loans to employers to the extent of 37½ per cent. the interest and initiative evinced by employers has been much less than is due from them. For co-operative societies loans are allowed to the extent of 50 per cent of the cost, but few

workers' co-operatives have taken advantage of this concession. Steps to secure a greater response from employers and co-operatives are under consideration.

11. During the second plan it is proposed to undertake a programme for slum clearance and provision of houses for sweepers. For this programme, to the extent of 50 per cent. of the cost, the Central Government will provide loans repayable in 20 to 30 years at 4½ per cent. interest. The balance of the cost is proposed to be found as subsidy to be shared equally between the Central Government and the State Governments or the local authorities concerned. In carrying out this programme, besides clearing existing slum areas, it will be necessary to provide additional houses for persons removed from slums.

III

WELFARE OF BACKWARD CLASSES

In an under-developed country like India, it is not easy to define rigidly the sections of the population for whom special measures of protection and assistance should be undertaken over and above the general programmes of economic and social development. Some sections of the population can, however, be distinguished from the rest for special treatment. These are :

(1) *Scheduled tribes*, numbering about 19·1 millions. In addition to the provision of such amenities as improved communications, hospital and public health facilities, and education, they require assistance towards the improvement of their economic conditions;

(2) *Scheduled castes*, numbering 52·1 millions, have for centuries suffered from disabilities and need special assistance in the amelioration of their social and economic conditions;

(3) *Other backward classes*, among whom are communities formerly known as "criminal tribes", numbering 4·2 millions, may be specially mentioned. Conditions have to be created which would enable members of these communities to become citizens pursuing their vocations in the normal way. Some groups or sections, whose members are educationally backward have been recognised already for the grant of stipends, scholarships and other similar concessions. There may be other groups who can be considered to be socially and educationally backward. The determination of such classes is at present engaging the attention of the Central Government in the light of recommendations made by the Backward Classes Commission.

Progress in the First Plan

2. In the programmes included in the first five year plan, efforts were made to provide for the special needs of the sections of the population mentioned above and in all a provision of Rs. 39 crores was made in the plan. Of this, a sum of Rs. 20 crores was provided

in the plans of States and the balance consisted of Central grants amounting to Rs. 15 crores for the welfare of scheduled tribes and Rs. 4 crores for the removal of untouchability and allied scheme for scheduled castes, and for the rehabilitation and welfare of communities formerly known as "criminal" and of other backward classes. The welfare of scheduled tribes and the development of scheduled areas is the special responsibility of the Union under the Constitution. For this purpose since 1951-52 the Central Government has given grants-in-aid to States. Progress, however, was somewhat slow in the beginning, as some time was inevitably taken up in working out appropriate welfare schemes and in setting up the necessary administrative machinery in the States. As special departments have come into existence in the States to look after the implementation of the programme, their ability to utilise the funds provided has steadily increased.

3. Of the total estimated expenditure, a sum of over Rs. 11 crores was spent by the State Governments on the provision of educational facilities to backward classes, in addition to a further amount of about Rs. 3·4 crores disbursed during the same period by the Ministry of Education on the grant of scholarships to members of such classes for post-matriculation studies. Beginning with the grant of less than 3,000 scholarships per annum, the Central Government now makes available over 26,000 scholarships each year at an annual cost of more than Rs. 1 crore. In the case of the tribal people, special emphasis has been laid on the provision of free residential accommodation in Ashram Schools and on the teaching of crafts. Attempts are being made to impart education to the tribal people in their own regional languages and primers have been prepared in Hyderabad, Bihar, Assam and NEFA in the tribal dialects. More than one thousand Ashram Schools, Seva Ashrams, etc. were opened in the States of Bombay, Bihar, Orissa and Madhya Pradesh, and about 650 Sanskar Kendras (Balwaris, community centres etc.) have been established in the States of Bombay, Bihar, Madhya Bharat and Rajasthan. In NEFA training institutes have been opened to train tribal teachers in Hindi and allied subjects so that they can take over the teaching of tribal boys and girls. Special emphasis is laid on a simplified type of basic education adapted to local needs and conditions.

4. Similarly, in the field of economic uplift, a sum of approximately Rs. 3·6 crores was spent during the period of the first plan on the provision of vocational training and setting up cottage industry centres and on the grant of loans and subsidies to individuals and co-operative societies for starting or developing small trades. A large number of persons belonging to the backward classes were trained in cottage and subsidiary industries such as basket making,

tanning, carpentry, poultry, bee-keeping, etc. In a number of States, tribal people were organised into co-operatives with a view to enabling them to exploit and utilize minor forest produce to their best advantage, and more than 350 grain golas were set up in the States of Bihar and Orissa. Mention may also be made of dairy societies which were orgnanised and successfully run in West Bengal. Co-operative societies have also been set up to assist in the marketing of agricultural produce on co-operative lines. A scheme has been launched in NEFA to encourage tribal villagers to start co-operative stores and run Government managed shops.

5. Attention has been given to the improvement of means of communication in tribal and scheduled areas. In addition to their other road development programmes, a sum of about Rs. 6·5 crores has been spent by the State Governments on the construction of small approach roads, hill-paths and bridges in areas inhabited by the tribal people. The Government of Assam were given a special grant of Rs. 2·6 crores for improvement of communications in the tribal areas of that State. In all, 2,346 miles of bridle roads or hill paths were constructed in the States of Andhra, Assam, Bihar, Orissa, Madhya Bharat and Vindhya Pradesh. In NEFA the scheme of building roads and mule tracks on a self-help and cooperative basis with the contribution of the tribal people has proved a great success and has been much more economical than the contract system. About 200 miles of such roads have been built at less than half the usual cost.

6. Steps have also been taken to augment medical and public health facilities in scheduled areas. One of the principal difficulties experienced by tribals as well as members of the scheduled castes concerns the supply of clean drinking water. During the period of the first plan, more than 10,000 wells were provided. In addition to the opening of 133 hospitals and dispensaries in the tribal and other areas, medical aid was given to these classes in the shape of free distribution of medicine, reservation of beds, etc.

7. The housing conditions in which members of scheduled castes and scheduled tribes generally live are extremely unsatisfactory. To meet this problem, a sum of about Rs. 3 crores was spent during the period of the first plan on the provision of free house sites and the grant of subsidies, loans or building materials for the construction of houses.

8. Special attention has been paid to the problem of shifting cultivation practised by tribals in certain parts of the country. Experimental schemes were tried out in many States, notably in Assam, Andhra, Orissa and Hyderabad, with a view to encouraging tribals

practising shifting cultivation to take to settled methods of agriculture. One of the major obstacles in the way of implementation of the schemes for the welfare of the Scheduled Tribes has been the lack of trained welfare workers and technical personnel. The position in this respect has improved with the setting up during the last three years of institutes in Bihar, Orissa, Madhya Pradesh and Saurashtra and NEFA for the training of field workers and for tribal research.

9. For dealing with the problem of untouchability, besides the enactment of the Untouchability Offences Act, feature films were prepared and displayed through publicity units; posters were published and hand-bills distributed; and social melas were organised and intercaste dinners held. Mention may also be made of the financial aid given to non-official agencies which played an important part in the implementation of the programme particularly in the field of propaganda and publicity.

Scheduled Tribes and Areas

10. The problems reviewed above are proposed to be tackled on a considerably expanded scale during the period of the second plan, in which a total provision of Rs. 90 crores has been made for the welfare of backward classes. Of this, nearly two-thirds will be devoted to programmes for the welfare of scheduled tribes and the development of scheduled areas. Among the programmes on which the greatest emphasis is being placed is the settlement of tribals practising shifting cultivation in agricultural colonies. These colonies will be in the nature of multi-purpose projects where, in addition to land, plough animals, agricultural implements, seeds, manure, etc., programmes such as minor irrigation, demonstration farms, seed stores, terracing of fields, housing, village and hill roads, primary schools, supply of clean drinking water, medical and public health facilities, adult education, welfare and community centres, veterinary facilities, co-operative societies, etc. will be implemented. Experience gained in working a pilot project in Assam for soil conservation and prevention of shifting cultivation will be utilised for dealing with these problems elsewhere.

11. Other programmes to which considerable attention is being given are:

(i) schemes for eradicating diseases the incidence of which is particularly high, such as malaria, tuberculosis, leprosy and yaws, for making available medical and public health facilities and for supply of pure drinking water;

(ii) development of communications in inaccessible areas especially the provision of improved village roads, hill and forest paths, minor bridges, etc.; and

(iii) other schemes which will secure speedy improvement in economic conditions.

Forest cooperatives, grain golas and training and production centres for cottage industry are also being promoted. Welfare workers to be trained will be selected as far as possible from amongst tribals themselves. The training of a sufficient number of midwives, nurses, *dais*, etc., is of special importance at this stage of development. A technical institute is proposed to be started at Imphal, where tribal students will receive training for diploma and certificate courses in civil and mechanical engineering. In addition, scholarships will be provided for enabling tribal students to pursue higher courses in professional or technical subjects.

Scheduled Castes

12. As regards the removal of untouchability, besides providing drinking water wells, mixed dwellings, common community centres, and measures for publicity and propaganda, special emphasis will be laid on the economic uplift of members of scheduled castes. They are to be assisted with allotments of land, training in remunerative arts and crafts, and extension of educational facilities by the grant of scholarships and stipends. The problems of scheduled castes are an integral part of the general social and economic situation of the country, especially in the rural areas. Their social disabilities are in the process of disappearance, but obviously there is need for providing much larger opportunities for work. This is one of the major considerations in the second five year plan. In the removal of untouchability, the growth of public opinion and education in values and attitudes both for the general community and for those who fall within the scheduled castes play an important part. High priority will continue to be given to this aspect of the programme for removing untouchability.

Ex-criminal Tribes

13. A great deal of attention has to be given to the rehabilitation of members of tribes formerly known as "criminal", in order to provide them with gainful employment and to enable them to become good citizens.

Housing

14. One of the major problem which will receive attention during the second plan is the improvement of housing conditions in which

tribal people as well as members of scheduled castes and backward classes generally live. For this purpose, it is proposed to introduce a special programme. Plans of States aim at the construction of 86,000 houses for these classes during next five years.

Targets in State Plans

15. Some of the targets which State Governments have provided in their plans may be briefly mentioned. In the field of education it is proposed to open over 7,500 schools and hostels and to grant 24 lakhs scholarships and stipends in addition to concessions such as grants for the purchase of books, clothing, etc. Grants will be given towards boarding and lodging expenses of students drawn from amongst backward classes who reside in hostels. The programme for communications includes the construction of about 9,000 miles of roads, hill paths, etc. More than 14,000 families are to be rehabilitated on land and about 17,000 persons will be given loans and subsidies for trade and cottage industries. It is proposed to train about 18,000 persons in various arts and crafts such as tailoring, smithy, tanning, weaving, basket-making, beekeeping, poultry, etc. Cooperative societies of various types will also be promoted, for instance, multi-purpose cooperatives, forest cooperatives, agricultural credit societies, etc. The housing programme has already been mentioned earlier. It is proposed to open about 145 hospitals and dispensaries and to construct about 23,000 drinking water wells. Centres for treating certain specific diseases will also be established.

Administrative Personnel

16. One of the main problems in implementing the second plan in scheduled areas is that of finding suitable trained personnel at different levels. To meet this problem the Government of India have approved the formation of a new cadre called the Indian Frontier Administrative Service (IFAS) to attract the most suitable material from the Indian Administrative Service, the Indian Foreign Service, the Defence services and other Central and State services as well as Universities to fill Grade I and Grade II administrative posts in NEFA, Manipur and Tripura. The cadre is a small one at present, consisting of 43 Class I posts—23 in Grade I and 20 in Grade II—and may well have to be expanded in order to provide officers for other backward and border areas.

17. For subordinate services in these areas it is proposed to form a special cadre details of which are being worked out. What is needed is a band of permanent workers who will serve the tribal people and tribal areas by living among them and sharing their life. Special emphasis is laid on getting as many tribal officers as possible

and training them to work in their own areas. Thus, for example, in NEFA about one-third of the total strength of officers in Class I, about 40 per cent in Class II and over 50 per cent in Classes III and IV are tribal people.

18. The working of the first plan has emphasised the need for strengthening the existing administrative arrangements for implementing programmes relating to the welfare of backward classes. Steps to this end have been proposed in the plans of States. The Central Government proposes to give special attention to the assessment and evaluation of the progress of implementation of schemes included in the plan and to the problem of finding the required number of administrative and technical personnel.

IV

SOCIAL WELFARE

The growth of social services in any country is necessarily a slow process. Its principal limitations relate to the magnitude of the community's resources and the lack of trained personnel and of organisations devoted to social welfare. In the field of social welfare, personnel provided by the Government or by public authorities generally represent only a nucleus for drawing into the service of the community the voluntary labours of large numbers of private individuals. In the past voluntary agencies depended entirely on donations from private persons. It is felt that, in the larger interests of the community, these voluntary agencies should be encouraged to extend the scope of their activities and that the Central and State Governments should supplement private efforts in this direction.

2. It was in response to this situation that as part of the first five year plan the Central Government set up a Central Social Welfare Board with the object especially of assisting voluntary agencies in organising welfare programmes for women and children and handicapped groups. The Central Social Welfare Board has, in turn, in collaboration with State Governments, organised State Social Wefare Boards throughout the country. The building up of this organisational network makes it possible to embark upon larger programmes of social welfare in the second five year plan. Already, during the past three years the foundations for these programmes have been laid. The Central Social Welfare Board has hitherto assisted 781 women welfare institutions, 689 child welfare institutions, 201 institutions serving handicapped persons and delinquents and 811 institutions engaged in general welfare work. The Board also took up welfare extension projects, one in each district in the country, each project serving a group of about 25 villages. The Board has undertaken an extensive training programme for women village level workers (gramsevikas) and for midwives. It has also made a beginning in Delhi, Poona, Hyderabad and Vijayawada in tackling the difficult task of providing work for women in their homes. During the second five year plan the Board has a programme for taking up three more welfare extension projects in each district, bringing the total number at the end of the plan to 1,320.

3. Problems relating to the welfare of women and children and handicapped and delinquents have been studied by special groups

or committees set up by the Board and detailed programmes are being drawn up for the second five year plan. Other programmes under the second five year plan, details of which are now under consideration, concern juvenile delinquency, moral and social hygiene, problems relating to beggary and the establishment of probation services.

4. In all fields of social welfare each local community has to assume the main responsibility for providing relief and assistance to the needy and the handicapped. The role of the State and agencies set up by it is necessarily of a limited character. However, the experience of the first plan shows that resources provided by public authorities in money and personnel can go a long way in stimulating community effort and invoking much voluntary service. The Bharat Sevak Samaj, as a national organisation set up at the suggestion of the Planning Commission, and several other voluntary organisations have in this manner succeeded in making a significant contribution to community welfare. Their work is expected to develop further during the second five year plan, which provides Rs. 28 crores for schemes of social welfare, Rs. 15 crores for local development works and Rs. 5 crores for special schemes connected with public cooperation in construction programmes.

V

LABOUR POLICY AND PROGRAMMES

In the labour policy proposed for the period of the first plan the greater emphasis was placed on the effective administration of labour laws than on enacting fresh legislation. For the settlement of disputes joint consultation at different levels was proposed. The plan envisaged improvement in the real wages of the working class. The implementation of social security schemes like Employees' State Insurance and Employees' Provident Fund Act, and the subsidised industrial housing programme was envisaged. Working conditions in factories, plantations and mines were also to be improved. In order to study systematically problems of production in relation to the health and safety of workers, it was decided to establish a Central Labour Institute and to organise productivity studies in some industries. Labour welfare centres were also to be established in a number of States.

2. Over the course of the first plan industrial relations have recorded an improvement. The various proposals contemplated in the plan were carried out in cooperation between Government, industry and labour. Employers have shown increasing awareness of the need to improve working conditions and labour as a whole has been prepared to play its part in increasing national production.

3. In its essentials the labour policy and the approach to industrial relations outlined in the first five year plan will also hold for the period of the second plan, although necessarily some changes and adaptations will be needed in view of the determination to achieve a socialistic pattern of society. Increase in the scope of public sector will place a heavy responsibility on workers in that sector. Also if conditions of work in public undertakings are expected to act as an example for the private sector, administrators in charge of these undertakings have to be especially watchful of the interests of workers. A labour policy which secures this objective and receives general support from the interests concerned is being evolved through the work of a representative Panel on labour which was constituted by the Planning Commission about the

middle of 1955. The suggestions which are briefly explained below are in the main the result of deliberations in this Panel.

4. The present trade union legislation needs to be revised with the object of (1) restricting the number of outsiders in the trade unions, (2) giving unions statutory recognition under certain conditions, (3) protecting office-bearers against victimisation, and (4) improving the financial base for the trade union movement from within its own resources. Such legislation is considered necessary for strengthening the trade union movement. There is need also for voluntary efforts towards the unification of the trade union movement.

5. Considerable emphasis should be placed on mutual negotiations for the settlement of disputes and on voluntary arbitration. Government intervention should be resorted to only in intractable cases. The proposed amendment of the Industrial Disputes Act is therefore a move in the right direction.

6. The present provision in the Industrial Disputes Act for enforcing compliance with the terms of awards does not go far enough. Responsibility for enforcing specific performance of an award should be placed on a Standing Industrial Tribunal which it should be possible for parties concerned to approach directly.

7. The Joint Consultative machinery has not yet reached the lower levels and the works committees are functioning indifferently. Their working needs to be improved in order to make them more effective, as vehicles of goodwill which is evident at the top.

8. For the successful implementation of the plan increased association of labour with management is essential. This will improve industrial relations and will also promote increase in productivity. It is therefore recommended that in each undertaking there should be a Council of Management consisting of an equal number of representatives of management and workers. It should be the responsibility of the management to supply full information on all subjects to councils of management, which should be entitled to discuss all matters pertaining to the establishment other than financial. Matters which fall within the purview of collective bargaining should, however, be excluded from the scope of their discussions. Labour welfare problems might be discussed in work committees in the first instance and later brought up, if necessary, before the Council of Management.

9. In view of the fact that the public sector will grow rapidly, in its capacity as employer the State should set appropriate standards.

The management of a public undertaking should not seek exemption from laws or ask for concessions not available to the private sector.

10. A developing economy calls for a wage policy which ensures rising real wages for workers. Such a policy can only be based on increase in productivity, accompanied by a firm assurance to labour that an equitable share will accrue to it. It is necessary to examine whether the existing system of determining wages so as not to affect marginal units should not be changed so as to take into account the working of average units as a basis for wage fixation. Payment by results should be encouraged and extended to areas where it does not at present prevail subject to a minimum (Fallback) wage. This should be done in consultation with workers.

11. Steps need to be taken to organise a wage census and also to place the various working class cost of living indices on an uniform basis. While it is important to evolve principles of wage determination consistent with the pattern of society envisaged, tripartite wage boards are required to be set up immediately in all industries for settling wages disputes.

12. The Employees' Provident Scheme is proposed to be extended to cover industries and commercial establishments not yet included within its scope. The proposal is that industries having a complement of 10,000 workers in the country as a whole and commercial establishments should be covered during the plan period. The rate of contribution is proposed to be enhanced from 6-1/4 to 8-1/3 per cent. The financial aspects of these proposals are under consideration.

13. For the improvement of working conditions special stress should be laid on the implementation of the existing legislation. In addition, legislation should be undertaken to regulate conditions of work in the construction industry, in transport services, and in shops and commercial establishments. The problem of contract labour should be investigated with a view to affording such protection as may be found feasible.

14. The Agricultural Labour Enquiry which was carried out five years ago and the reports of which are now available, has revealed the magnitude of the problem of unemployment and underemployment among agricultural labourers. Under existing conditions the fixation of minimum wages cannot provide effective assistance to this section of the population. The subject has been considered in an earlier chapter in relation to problems of village development. Here it is sufficient to draw attention to it and to suggest that measures to improve the conditions of living of agricultural workers and the

employment opportunities open to them are a matter which should receive systematic and continuous attention on the part of Central and State Governments and that there should be periodical evaluation of the progress achieved in implementing them.

15. A welfare fund similar to the welfare funds now provided for coal mines and mica mines should be instituted for the manganese industry. The possibilities of unified administration of such funds should be considered.

16. In the field of workers' education, works schools for workers' children and a scheme for training trade union workers should be organised.

17. The Central Labour Institute, which is now being set up in Bombay, will be expanded under the second plan. Wings for the study of industrial psychology and industrial physiology are being added and a number of new investigations will be undertaken. Industrial health safety and welfare museums are to be established at Calcutta, Madras, and Kanpur.

18. The second plan has allocated about Rs. 26 crores for implementing schemes relating to labour. In their plans several States have provided for Welfare Centres for workers which will be financed and operated mainly by employers and workers' organisations with the State Government making a limited contribution.

19. For the second five year plan, with its emphasis on the development of industry, minerals, and transport and the increasing demand for skilled services, considerable emphasis is being placed on the provision of training facilities. The existing training centres administered by the Ministry of Labour, which are now to be transferred to the States, provide training facilities for 10,000 persons. During the second plan facilities for additional 20,000 persons per annum will be organised. To meet the requirements of skilled personnel, arrangements for training apprentices in the first year of the plan are being made and it is proposed to expand these progressively so that by the end of the plan period 5,000 apprentices are trained each year in industrial establishments. As the expansion of training facilities depends largely on trained instructors being available, two institutes for this purpose are being set up.

20. The large industrial programme in the second plan will also make a heavy demand on the services of employment exchanges. These will now be placed under the administration of State Governments with the Central Government exercising coordinating functions. The scope of employment exchanges is being enlarged, so

that they also become agencies for collecting employment market information, thereby rendering valuable assistance in the implementation of plans for increased employment. The number, of employment exchanges is to be increased from 131 to 256 during the second plan.

VI

REHABILITATION OF DISPLACED PERSONS

After partition the relief and rehabilitation of displaced persons from West and East Pakistan was a major national task. The first five year plan accorded a high priority to the rehabilitation of 8·53 million displaced persons and provided for a total outlay of Rs. 136 crores.

Displaced Persons from West Pakistan

2. At the end of the first plan nearly 2·3 million displaced persons from West Pakistan have been settled on land and their rehabilitation has been assisted with loans and grants. In urban areas, 1·2 million persons have been accommodated in evacuee houses and another million persons in 200,000 newly constructed tenements. In order to enable displaced persons in urban areas to settle down in small-scale business, industry or profession, loans upto Rs. 5,000 per family have been advanced by State Governments. Loans for larger undertakings have been advanced by the Rehabilitation Finance Administration. Vocational training centres have been established and about 75,000 persons have so far been trained in various occupations and 6,000 are at present receiving training. Financial assistance has been provided to private educational institutions catering to the educational needs of displaced students. Stipends, freeships, grants and scholarships have been given to displaced students. Fourteen townships have been built to assist displaced persons in finding shelter and employment. In these, provision has been made for developing civic amenities like water-supply, drainage and electricity. In order to expand employment opportunities in the townships, recently schemes have been approved for encouraging the establishment of industries with a measure of Government assistance. The industries so far started are estimated to give employment to 11,000 displaced persons both from East and West Pakistan. The compensation scheme for displaced persons from West Pakistan is now being implemented. Until this scheme has been carried out fully, the rehabilitation of these displaced persons will continue to require attention.

Displaced Persons from East Pakistan

3. There has been a continuous influx of displaced persons from East Pakistan into West Bengal and neighbouring States. Out of 3·83 million persons who have so far migrated, about 388,000 families have been settled on land and other ancillary occupations. About 350,000 residential units have been constructed in rural and urban areas mainly by displaced persons with loans from the Government. About 22,000 displaced persons have been given vocational and technical training and 8,000 are now under training. Business loans have been advanced to about 88,000 families. The continuing influx of displaced persons has made the problem of rehabilitation in the eastern States particularly difficult. At present it is estimated that about 170,000 families require to be rehabilitated.

Rehabilitation Programmes in the Second Plan

4. Schemes of rehabilitation under the second plan fall under the following groups: (1) Urban loans, (2) Rural loans, (3) Development of Agricultural land, (4) Housing, (5) Development of medium, small and cottage industries, (6) Education, (7) Vocational and technical training and (8) Medical facilities. Loans will also be given by the Rehabilitation Finance Administration. A sum of Rs. 90 crores has been provided under the second plan for executing these programmes. A major portion of this outlay will naturally be on programmes for the rehabilitation of displaced persons from East Pakistan. However, as explained earlier, on account of the time needed to complete the compensation scheme, some provision has also been made for displaced persons from West Pakistan.

5. Under the scheme for rural loans, approximately 80,000 displaced persons from East Pakistan are proposed to be given assistance for settlement on land and in ancillary occupations in rural areas. The acquisition and development of agricultural land in States other than West Bengal for the resettlement of displaced agriculturists from East Pakistan, is a matter requiring urgent attention. The National Development Council has called upon States to make special efforts to provide land for East Pakistan displaced persons. Efforts are being made to locate suitable blocks of land in several parts of the country, especially in Orissa, Vindhya Pradesh, Mysore, Andhra, Hyderabad.

6. Under the scheme for urban loans, about 20,000 displaced families from East Pakistan are expected to receive assistance. Provision on a tapering basis has also been made for a small proportion of displaced persons from West Pakistan, especially those who will have no claims under the compensation scheme or whose claims are

very small. Of the loans to be advanced by the Rehabilitation Finance Administration the greater part will go to applicants from the eastern States. The housing programme for displaced persons from West Pakistan aims mainly at completing the construction work now under way and for the development of townships and colonies which have been already established. Under the housing programme for displaced persons from East Pakistan it is proposed to advance loans to about 13,000 families at an average rate of Rs. 2,500 per family, and to undertake the construction of about 12,000 units at an average cost of Rs. 5,000 per unit. Schemes have also been drawn up for developing existing colonies and for granting assistance to municipalities and local bodies for providing civic amenities to colonies of displaced persons.

7. A substantial provision has been made under the second plan for promoting medium, small and cottage industries in refugee townships and colonies both in the eastern and western regions and at other places having large numbers of displaced persons. Arrangements are being made for the proper coordination of these industrial schemes with the general programmmes of industrial development under the plan.

8. The programme for assisting displaced students and private educational institutions will be continued on a limited scale in the western region. In the eastern States, provision is being made for the establishment of some new colleges in the suburbs of Calcutta and a large number of primary and secondary schools. The programme for imparting training to displaced persons in different vocations, with a view to enabling them to become skilled workers and technicians will be continued, and 70,000 displaced persons are proposed to be trained during the period of the second plan.

9. The influx of displaced persons from East Pakistan which has taken place during the past year has made it necessary to provide for special medical facilities in different townships and colonies in the eastern zone. New hospitals in urban areas and dispensaries-*cum*-maternity centres in rural areas, are proposed to be opened as the available facilities are not adequate. Provision will also be made for additional beds for displaced persons in T.B. hospitals and sanatoria.

10. The lines which rehabilitation programmes will follow during the second plan have been explained above. Increasingly, rehabilitation programmes are being coordinated with general programmes of economic and social development. Problems of rehabilitation of

displaced persons from West Pakistan have become to a large extent part of the overall problems of economic development in States in which they have been resettled in large numbers. The situation in respect of displaced persons from East Pakistan requires that the various programmes should be reviewed from time to time so that they can be modified or strengthened as circumstances may demand.

VII

PROHIBITION

For many years a considerable section of public opinion has urged that prohibition of consumption of intoxicating drinks and of drugs injurious to health should be carried out as an essential item of social policy. In Article 47 of the Constitution this has been already accepted as a directive principle. Since progress in this respect had been on the whole meagre, the Planning Commission set up a special committee to examine the experience gained regarding measures adopted by State Governments and to make recommendations for a programme of prohibition on a national basis, indicating the manner and stages in which and the machinery through which this programme should be carried out. The report of the committee which has been recently received is under consideration in consultation with State Governments and the Central Ministries. Here it will be sufficient to indicate the general approach to the subject.

2. In the consideration of any basic social policy, financial considerations, although of great practical importance, are not to be treated as decisive in character. What is important is that the programmes should be so formulated that they can be implemented successfully over a period. For the country as a whole there is need for a common approach towards prohibition, but detailed programmes have to be drawn up by States. Some States will be able to proceed ahead of others and to the extent they do so, they will show the way and provide experience on which other States can base their detailed programmes.

3. A national policy like prohibition has to be approached from different directions such as enforcement measures, growth of the sanction of public opinion, voluntary work of social service agencies and of social workers and the provision of alternative interests and recreations. While the direction will be common, there is room for a degree of variation in the steps to be taken in different parts of the country according to local conditions and circumstances. Each State could formulate a series of specific tasks to be undertaken by it in the various directions mentioned above. The Prohibition Enquiry Committee has suggested April, 1958 as the target date for the enforcement of prohibition uniformly throughout the country.

We consider that there is practical advantage in each State Government approaching the problem in terms of phased programmes setting out specific targets to be achieved over the whole field of social and administrative action. While there should be general agreement on the main directions of the programme to be pursued, with provision for constant review and assessment, it would not be necessary to insist upon identical steps or identical dates for all the States in the Union. On balance this appears to us to be the best way of advancing towards the objective of prohibition.

4. The Prohibition Enquiry Committee has recommended the setting up of a Central Committee to review the progress of prohibition programmes and to coordinate activities in different States and to keep in touch with their practical difficulties. The Central Committee should, it has been suggested, make a report to the National Development Council once a year. We are in agreement with these recommendations. We also think that it will be useful, as the Committee has proposed, that Prohibition Boards and district prohibition committees, should be set up in the States and there should be Administrators of Prohibition to implement the programme.

5. Several of the proposals made by the Committee will need detailed examination by Ministries and States. We suggest that as a first step State Governments may take action in the following general directions:

(1) discontinuance of advertisements and public inducements relating to drink;

(2) stoppage of drinking in public premises (hotels, hostels, restaurants, clubs) and at public receptions.

In applying rules to this effect, care must of course be taken to ensure that the rights of foreign missions are not affected and foreign visitors and tourists are not put to inconvenience or harassment;

(3) setting up of technical committees to draw up phased programmes with the object of

(a) reducing progressively the number of liquor shops both in rural and urban areas;

(b) closing liquor shops for an increasing number of days during the week;

(c) reducing quantities supplied to liquor shops;

(d) progressively reducing the strength of distilled liquor produced by distilleries in India;

(e) closing of shops in and near specified industrial and other development projects areas;

(f) removal of shops to places away from main streets and living quarters in towns and villages;

(4) taking active steps to encourage and promote the production of cheap and healthy soft drinks;

(5) assisting voluntary agencies in organising recreation centres; and

(6) including prohibition as an item of constructive work in national extension and community project areas and social welfare extension projects.

6. This approach has been generally approved by the National Development Council.

CHAPTER XIV

EDUCATION AND SCIENTIFIC RESEARCH

I

EDUCATION

THE nature of the system of education in a country has a determining influence on the rate at which economic progress is achieved and the benefits which can be derived from it. Economic development naturally makes growing demands on human resources and in a democratic set-up it calls for values and attitudes, in the building up of which the quality of education enters as an important factor. The socialistic pattern of society assumes widespread participation of the people in all activities and constructive leadership at various levels. In a period of intensive development, however, the resources to be allocated for education and the targets to be achieved are among the difficult issues which have to be faced in drawing up a plan of economic and social development. In recent years, there has been a great deal of re-examination of the pattern of education, and on several issues the opinion of educationists has crystallised into fairly specific proposals for change, as indicated in the recommendations of the University Commission, the Secondary Education Commission and a number of committees which have inquired into educational problems during the past few years. For want of resources adequate progress has not been possible in implementing some of these proposals. A careful examination of educational programmes to be carried out during the period of the second plan is at present in progress. In this chapter attention is drawn to some aspects of the problem in the context of the second plan and a number of suggestions which merit consideration are offered.

2. One of the directive principles in the Constitution is that the State shall endeavour to provide within a period of ten years free and compulsory primary education for all children until they complete the age of fourteen years. Before the first plan was initiated the facilities available at the primary stage could provide for 42 per cent of the children of the age-group 6-11 years. Of this, the percentage for boys was 59 and for girls only 25. At the end of the first plan additional facilities are expected to be available for 50

per cent. of the children in this age-group, the number of boys and girls at school being 68 and 32 per cent. respectively. In the age-group 11-14 years, the proportion of children for whom facilities are available has risen from 14 to 17 per cent., but only 20 per cent. of the children at school are girls. For children in the age-group 14-17 years, over the period of the first plan, the number of pupils has risen from 6·4 per cent. to 9 per cent., but girls account for about one-sixth of the numbers at school. Large numbers of children, especially in rural areas, leave school after attending for two or three years. This is a form of wastage which has to be eliminated.

3. These figures suggest certain basic questions about the rate at which advance in education can be achieved *pari-passu* with economic development programmes which claim inevitably a large share of the available resources. For the second five year plan the total outlay proposed for education is Rs. 320 crores, in addition to the existing committed annual expenditure on schemes completed during the first plan period and the funds allotted for education in the programme of national extension and community projects. Of this Rs. 225 crores have been provided in the plans of States and Rs. 95 crores in the plan of the Central Ministry of Education. The tentative distribution of the amount provided for education is as follows:

	(Rs. crores)
Administration	7.4
Primary (Junior Basic) Education	82.6
Middle School Education	24.2
Secondary Education	42.5
University Education	66.9
Technical Education	49.3
Social Education	5.0
Miscellaneous	42.1
	320.0

The different stages included in this programme are reviewed in the paragraphs which follow.

Elementary Education

4. If the programmes which have been worked out are implemented, it is expected that at the end of the second plan education will be available for 60 per cent. of the children in the age-group 6-11 years and for 19 per cent. of the children in the group 11-14 years. The number of pupils will increase by 6.6 million at the primary stage and by 800,000 at the middle stage. These targets

will require the establishment of 60,000 new primary schools and 5,000 middle schools. The number of basic schools is expected to be 12,000 and along with those converted from existing institutions the basic schools would account for about 13 per cent. of the total number of primary and middle schools. It is clear that in view of the magnitude of the problem a much higher rate of progress must be secured. In the implementation of this programme, special attention will need to be given to the training of teachers. The proportion of trained teachers in primary schools was 59 per cent in 1950-51 and is estimated to be about 64 by the end of the first plan. During the second plan it is expected to increase to about 75 per cent.

5. It is essential that despite limitations of resources every effort should be made to implement in the course of the next 10 years the directive of the Constitution relating to free and compulsory education upto the age of 14 years. A great deal of joint planning and action on the part of the Central and State Governments will be needed and many special measures will have to be adopted if this aim is to be achieved even by the end of the third five year plan. In particular, it would be necessary to examine any possible economies and eliminate wastage and thus ensure that the available resources go further than they would in the ordinary course. Steps have also to be taken to augment these resources through local community effort. For the promotion of girls' education, too, special measures will have to be taken urgently. If the existing trends continue, it is possible that by the end of the second plan about 80 per cent. of the boys in the age-group 6-11 years may be at school, but the proportion of girls will still be less than 40 per cent. This disparity is to be found not only amongst boys and girls but also as between different regions because in some parts of the country progress in education continues to be much below the national average.

6. The suggestion that means should be found for securing greater economy in public expenditure on elementary education sometimes invites the criticism that this will adversely affect the quality of education. There is no question that a good system of education has to provide for quality as well as quantity and that neither aspect can be ignored. For attaining better standards, practical experiments and continuous emphasis on improved methods are of great importance. Training facilities for teachers, adequate provision of books, teaching aids and equipment and organisation of the teaching profession so as to attract able personnel are some of the conditions necessary for raising standards. Naturally, in the present phase of development, adequate provision in terms of numbers is an immediate necessity. The school has a vital role in village reconstruction and it is essential that by the end of the second plan, no

village with a population of, say, 500 or more should be without its own schools. Once a school is established, its improvement generally on the lines of basic education would have a high priority. The programme for developing basic education and for bringing about other improvements should be simultaneously pursued and fully supported by carefully planned experiments.

7. For securing a rapid increase of facilities at the primary level steps should be taken to reduce the cost of education. Economies could be sought in several directions and, more especially, (1) by way of reducing public expenditure on buildings, (2) by organising schools on the shift system and (3) so far as may be feasible, by educating together boys and girls of the age-groups 6-11 years. Under village conditions the establishment of new primary schools need not be contingent on the provision in advance of buildings conforming to prescribed standards. For the greater part children can study in the open and under the shade of trees, buildings serving a subordinate purpose. Common buildings like village temples and *panchayat ghars* where they exist, can also be used for schools and for purpose of social education. Once a school is actively functioning, the provision of a building can be taken in hand as soon as circumstances are favourable and local co-operation is forthcoming. In a number of States ways have been devised for reducing the immediate incidence of the cost of providing buildings, and in this respect there is much scope for exchange of information and experience in different States. In one State, for instance, loans for the construction of primary school buildings are advanced to district school boards from the provident fund collections of primary school teachers. A proposal commending action along these lines was made by a committee appointed in 1951 by the Central Advisory Board of Education to advise on the relationship between State Governments and local bodies in the administration of primary education. Some States have provided for the construction of quarters for teachers. While special assistance may be required for quarters for women teachers, for men teachers the responsibility could ordinarily be cast on village communities.

8. There is a volume of opinion among educationists in favour of devising a suitable shift system as a temporary measure for achieving expansion in education. A shift system will enable a teacher to take a larger number of pupils than is possible in the ordinary way, thus reducing the cost of expansion, both in respect of the number of teachers and the additional buildings needed. It can also be used for providing separate facilities, where necessary, for the education of boys and girls. The idea of shifts can be adapted to urban as well as rural conditions. Experience in Travancore-Cochin, Bombay and elsewhere indicates that the system is not too

difficult to work. A committee of the Central Advisory Board of Education has recently recommended that the shift system may be introduced wherever necessary after a careful survey of the prevailing school situation. It should be tried in the first two classes for basic as well as non-basic schools, and for new as well as existing schools. In the first two classes, the reduction of the total time for each child will not present any special difficulties. The adoption of a shift system has necessarily to be accompanied by a drive for increasing enrolment with a view to introducing compulsion in due course. This is a matter of special importance in the case of education for girls.

9. As an immediate step towards the implementation of the programme mentioned above, the Ministry of Education are arranging in collaboration with State Governments to carry out a detailed educational survey to determine the scope and nature of the expansion needed in each area.

10. The need to supplement resources made available for education from general revenues, whether Central or State, is being increasingly appreciated. In many countries the principal responsibility for providing elementary education rests with the local community. The State authorities encourage local effort by providing adequate grants-in-aid. For fulfilling the directive of the Constitution in 10 years it is essential that Government resources should be augmented in increasing measure through local community action. In recent years local communities have come forward to make generous contributions in land, labour and money for the provision of school buildings. What is now required is, in addition, a contribution towards the cost of maintenance of schools, which will be steady and recurring, not merely sporadic or occasional. To enable local communities to shoulder in some measure the continuing responsibility which this implies, it is recommended that each State should consider enacting legislation to enable local authorities, urban and rural (including village panchayats), to levy a cess for education. The advantage of bringing in this cess as a local measure would be that the responsibility and initiative of local communities would be specially stressed and the people will know that whatever they contribute will be used for their benefit. A degree of flexibility in detail could be provided in the legislation, so that the example of local communities which are progressive and forward-looking can stimulate others to similar action. The education cess could be related to appropriate State and local taxes such as land revenue, property taxes, etc. so as to enable different sections of the community to make their contribution.

11. It has been generally recognised that the low salaries of teachers in many parts of the country come in the way of improvements in the system of elementary education. This is an important consideration when plans for the expansion of education are being formulated. The provision of satisfactory salaries for teachers should be accepted as a measure essential for the effective reorganisation of the system of education. In general, it would be agreed that teachers' salaries should be fixed at levels, consistent with the local pay structure at which suitably qualified persons could be attracted and retained in the profession. The problem in different States is, however, by no means identical. It is at present under examination in consultation with State Governments. Apart from the general question of ensuring reasonable salary levels for teachers, additional remuneration for teachers could also be related to specific circumstances such as the possession of training qualifications, extent of teaching experience and additions to normal work on account of the introduction of a second shift or responsibility for running part-time continuation classes or social education classes.

12. The fact that teachers are now employed by various authorities—State Governments, Municipalities, District Boards and private bodies—is an important element in the variations in salaries, standards, working conditions and prospects of teachers which exist within the same State. A suggestion has been made that all elementary school teachers in a State should be brought into the service of the State Government in appropriate grades. When the services of teachers are placed at the disposal of local or other bodies, according to the cadres to which they belong, their terms of appointment can be maintained. This will enable State Governments to extend to teachers adequate benefits of security, pension, provident fund contributions, promotion, the opportunities to qualify for higher grades and the other appropriate amenities.

Secondary Education

13. Steps to implement the pattern of re-organisation for secondary education recommended by the Secondary Education Commission have been initiated during the past two years. With the provision of Rs. 43 crores in the second plan as against Rs. 22 crores in the first, it is hoped that the reorientation of secondary education will be carried a step further. Among other programmes, a proportion of the existing high schools will be converted into higher secondary schools and multipurpose schools. In the first plan, about 250 multipurpose schools have been established. During the second plan the number of multipurpose schools is to be increased to 875. The number of high and higher secondary schools (which generally include

middle classes) will increase from 10,800 to 11,300 at the end of the second plan. During the next plan the numbers at schools in the age-group 14-17 years will increase from 2.2 million to 2.6 million or 10 per cent of the population in the age group.

14. Programmes in the second five year plan require for their implementation large numbers of skilled workers, technicians and specialists with a background of elementary or secondary education followed by basic training for specific vocations. Thus, the requirements of teachers, workers in national extension and community projects areas, cooperative personnel, revenue administration, technical and supervisory personnel in industry, agriculture and other fields of development have to be met mainly from the age group of 14-17 years. In this group there is at present a great deal of wastage, and misdirection, as may be seen from the fact that 50 per cent or more of students who take matriculation or equivalent examinations fail to qualify. It is common ground that, at the secondary stage of education, there should be increasing diversification of courses, so that students can be trained in different vocations according to their interests and capabilities. This object is proposed to be attained through the introduction of craft courses, better facilities for science teaching, establishment of multi-purpose schools and junior technical schools. Junior technical schools will provide three-year courses in technical and vocational subjects to be taken up by students after completing their middle (or senior basic) education. As a beginning 50 Junior technical schools are to be established but, naturally, they will be needed in much larger numbers as the re-orientation of the system of education proceeds. In this connection the training programmes of the Ministry of Labour and apprenticeship schemes proposed in the plan are also of great importance.

15. At the end of the first plan, about 60 per cent of the staff in secondary schools consists of trained teachers. According to the plans of States, the proportion of trained teachers will now increase to 65 per cent. The training of secondary teachers for vocational courses in multipurpose and junior technical and other schools will need a great deal of attention. The teaching of crafts in elementary and secondary schools is one of the essential features in the reconstruction of the system of education but progress in providing such courses is held back by lack of suitable teachers. The State plans provide for the training of 500 degree teachers and 1,000 diploma teachers. These proposals are being reviewed as larger numbers are likely to be needed.

UNIVERSITY EDUCATION

16. During recent years there has been a large increase in the number of students in universities and colleges. At the end of the

first plan the number estimated is 720,000 as compared to 420,000 five years ago. The number of students qualifying in degree and higher examinations in arts, commerce and science has arisen during this period from 41,000 to 58,000. These figures indicate the volume of wastage that occurs in this field. For improving the quality of university and college education and for reducing the wastage a number of measures are being taken by the University Grants Commission. The introduction of diversified courses at the secondary levels may succeed to some extent in checking the rush of students to colleges. The question of whether and to what extent possession of degrees can be dispensed with for the purpose of recruitment to public services is also at present being examined by a committee appointed by the Central Government. Affiliated colleges, in many of which the prevailing standards are unsatisfactory constitute another important problem, which is now receiving the attention of the Central Government. It is of the utmost importance that by action at the secondary as well as at the university levels and through appropriate changes in the conditions and methods of recruitment to public services university education acquires greater purpose and direction and thereby makes an increasingly significant contribution to national development.

Social Education

17. The census in 1951 showed that only 16.6 per cent of the population was literate and if children below 10 years are excluded, the proportion only rises to 20 per cent. Apart from the low percentage of literacy, there is serious disparity in literacy between men (24·9%) and women (7·9 per cent) and between the urban population (34·6 per cent.) and the rural population (12·1 per cent.). Considerable importance therefore, attaches to the programme of social education which is now being implemented mainly through the community development and national extension programme and through the work of non-official agencies. As essential reforms proposed in the system of education are carried out, it should become possible to develop facilities for continuation classes and social education classes in increasing proportion in elementary and secondary schools. The second plan envisages increase in training facilities for social education organisers, setting up of Janata colleges, opening of village and district libraries, provision of audio-visual aids and production of literature for children and adults. It is proposed shortly to establish a Fundamental Education Centre for training social education organisers and continuing study and research in problems relating to social and basic education.

Scholarships

18. With a view to providing greater equality of opportunity in

the field of education and making available educational facilities to deserving students, a number of scholarship schemes were introduced during the first plan. About Rs. 12 crores are being provided in the plan for scholarships, in addition to continuing general schemes introduced during the first plan. Scholarships are provided, amongst others, for students from scheduled tribes, scheduled castes and other backward classes. The programme also includes post-matriculation scholarships, research scholarships, overseas scholarships and cultural scholarships for Asian, African and other foreign students for study in India. As a result of the implementation of these scholarship schemes, it is estimated that during the second plan period assistance will be given to about 250 scholars for study abroad, 74,500 students from scheduled tribes and scheduled castes and other backward classes, 4,000 post-matriculation scholars, 340 fellows and 3,725 research scholars for research training and 2,060 foreign students for study in India. Most of the States have also provided for scholarships, fellowships and schemes of free books etc., at the primary and secondary school level and for special scholarships for technical education. Stipends for vocational and industrial education have been included in schemes sponsored by the Labour and Industries Departments in the States and by the Ministry of Labour at the Centre. Stipends for higher scientific and technological research are given by the Ministry of Natural Resources and Scientific Research, for agricultural research by the Ministry of Agriculture, and for medical research by the Ministry of Health. It would be fair to say that, under the second plan, a good proportion of students, with ability and aptitude, who wish to undertake higher studies and research will be able to do so with practical support from the State.

Technical Education

19. In each sector of development technical personnel are needed in rapidly increasing numbers. Steps which are proposed to be taken to augment the existing training facilities for doctors, agricultural and veterinary specialists and others have been explained in the appropriate chapters. Despite the advance made in the first plan, the requirements of engineering and technological personnel will be on a scale exceeding the capacity of existing institutions. This is the main problem in the development of technical education in the second plan.

20. Among the main schemes included in the first plan were the establishment of the Indian Institute of Technology at Kharagpur, development of the Indian Institute of Science, Bangalore, improvement and strengthening of selected non-Government engineering

and technological institutions on the lines proposed by the All-India Council for Technical Education, and grant of stipends for practical training and scholarships for research training. At the end of the first plan, there are 45 engineering institutions of graduate and post-graduate level and 83 institutions of the diploma level compared to 41 and 64 respectively in 1950. The annual outturn of engineering graduates has increased from 1652 in 1950 to about 3600 in 1955 and of diploma holders from 1864 to 4900. In technological courses the out-turn has increased from 521 to 685 in degree courses and from 354 to 460 in diploma courses.

21. During the second plan about Rs. 50 crores have been allocated to technical education for expansion of training facilities with a view to meeting requirements of engineers, supervisors, overseers and other categories of personnel. A number of schemes taken up during the first plan will be completed in the second, such as, improvement of existing institutions at the degree and diploma level and provision of post-graduate courses and research facilities in selected institutions. Among the new courses of study established or expanded during the first plan mention may be made especially of printing technology, town planning and regional planning, architecture and management studies. These will be further developed. Stipends to enable fresh graduates to receive practical training in industry will be continued and about 7000 students are expected to benefit during the plan period.

22. A number of existing instiutions which have students from all parts of the country are to be developed further, notably, Delhi Polytechnic, Institute of Technology at Kharagpur, where additional subjects for study and research will be introduced. When fully developed, the Kharagpur Institute will have 1,000 graduate and 800 post-graduate students. In addition to the Kharagpur Institute of Technology, it is proposed to establish three higher technological institutions, one each in the northern, western and southern regions. These institutions will provide post-graduate facilities for all subjects in engineering and technology. The western institute is proposed to be established in 1956-57, the southern institute in 1958-59 and the northern in 1960-61. Each institute will have 800 under-graduate and 600 post-graduate students. The Indian School of Mines and Applied Geology at Dhanbad will also be expanded. Other programmes to be carried out during the second plan are the organisation of refresher courses for technical teachers at four different centres and the training of about 500 teachers in degree institutions and 1,000 in other institutions. A programme for constructing hostels for 4,000 degree students, 5,000 diploma students,

1,800 apprentices, 16,800 junior technical students and 500 teachers will also be implemented. During the plan, it is proposed to establish the Administrative Staff College and the Institute of Management. A Central Institute of Printing is also expected to be established. Finally, provision made for the training of foremen in industries is another feature of the plan.

23. At the end of the second plan, there will be 51 institutions imparting instruction at graduate and post-graduate level, and 104 at the diploma level. The out-turn of graduates in engineering is expected to increase from 3600 in 1955 to 6000 in 1960 and of engineering diplomates from 4900 to about 8000 during the same period.

24. Whether the increase in training facilities proposed above will prove sufficient has been examined by the Engineering Personnel Committee set up by the Planning Commission, whose interim recommendations have been received. The conclusion reached by the Committee is that even with the expansion of facilities for engineering education proposed in the second plan, it would be necessary to provide for additional training facilities for 1,690 additional engineering graduates for service in the fields of civil, mechanical, electrical, tele-communication, metallurgical and mining engineering and 5,750 diploma-holders in civil, mechanical and electrical engineering. Unless these measures are taken, the shortage is likely to be intensified in the later years of the second plan and in the third plan. The committee has recommended that the capacity of existing institutions should be increased by 20 per cent. in graduate training and by 25 per cent. for the training of diploma holders. It has also suggested that steps should be taken to establish 15 more engineering colleges and 62 more engineering schools in different parts of the country. These suggestions which will involve a total outlay of about Rs. 15 crores, are at present under consideration.

25. Increasing demands for skilled workers and foremen and other supervisory personnel will need to be met during the second plan. The Ministry of Labour has a programme for increasing the output of craftsmen by about 20,000 per annum and two institutions are being set up for training craft instructors. Apprenticeship training facilities have to be developed on a larger scale and in this field an important duty is cast upon the management of the better organized enterprises in the private sector. The Ministry of Iron and Steel has set up a directorate of training to coordinate the personnel requirements of steel plants and to ensure the necessary arrangements. In view of the large programme which it has to undertake, the Ministry of Railways proposes to establish a number of new technical schools.

II

SCIENTIFIC RESEARCH

The first five year plan was devoted to the building up of National Laboratories and other research institutes. The primary object in the second plan is to develop the existing facilities and to bring the work of scientists in the National Laboratories and research workers in the universities to bear upon problems in different fields of national development which press for urgent solution.

2. During the first five year plan National Laboratories for Physics, Chemistry, Metallurgy, Fuel, Glass and Ceramics, Food Technology, Drugs, Electro-chemistry, Road Research, Leather and Building Research were fully organised. Research institutes for Electronics at Pilani and for Salt at Bhavnagar were set up and the National Botanical Gardens scheme at Lucknow was also taken up.

3. The National Laboratories and the various institutes have been engaged both in fundamental and applied research and every effort is being made to link up their work with the needs of industries. In all 188 patents were taken for processes evolved in these laboratories.

4. The research programmes undertaken in the National Laboratories under the direction of the Council of Scientific and Industrial Research and in universities and other centres with assistance from the Board of Scientific and Industrial Research have been recently reviewed in reports published by the Council. The Central Government's outlay on buildings and equipment of the National Laboratories during the first plan is expected to be about Rs. 5 crores; during the same period the total expenditure on the activities of the Council of Scientific and Industrial Research amounted to more than Rs. 7 crores. The reorganisation and development of long-established organisations like the Botanical Survey and the Zoological Survey of India were taken up during the first plan. An important scheme which was initiated at the end of 1953 was the setting up of the National Research Development Corporation for the purpose of developing and exploiting in public interest inventions of various Government research departments and organisations. So far 177 inventions have been reported for development and the necessary factory trials have been arranged for a number

of them. An important field which is now receiving greater attention is that of irrigation and power engineering.

5. The Department of Atomic Energy has made large strides in the programme of research and in training scientific personnel. In connection with research, a Swimming Pool Reactor is under construction. It will help production of isotopes for biological, medical and industrial research, in addition to training reactor engineers. A high power high flux reactor has been received under the Colombo Plan from the Government of Canada and is expected to go into operation by end of 1957. This will facilitate research connected with advanced power reactors.

6. In regard to thorium and uranium, the Atomic Energy Department has carried out geological surveys and has launched upon drilling, mining and extraction activities. A Thorium/Uranium Plant has been put up at Trombay. The department has planned a uranium metal plant and a fuel processing plant.

7. The Atomic Energy Department is handling projects for heavy water production in conjunction with fertilizers at Nangal and at other suitable places.

8. The Universities Grants Commission has given special attention to the strengthening of scientific teaching and research and since its inception 28 universities have received grants to the extent of Rs. 3·5 crores. These grants have helped universities in expanding facilities for research and post-graduate training. Departments for engineering and technology have also been assisted by the Commission to the extent of Rs. 1.7 crores and a few centres for post-graduate research work in technical subjects have been helped.

9. Towards the end of 1954, a committee was set up by the Council of Scientific and Industrial Research for the purpose of planning the work of National Laboratories so as to coordinate it closely with the needs of national development. It is intended to organise research work as far as possible in terms of carefully integrated projects. Substantial funds will be made available for new schemes of scientific and industrial research, the provisional allotment being about Rs. 20 crores. It is proposed to establish certain new institutes, such as the Mining Institute at Dhanbad and the Central Mechanical Engineering Institute and the Scientific and Industrial Museum at Calcutta. It is also proposed that the Council of Scientific and Industrial Research should take over the Central Laboratories, Hyderabad, and the Indian Institute of Medical Research, Calcutta. Other institutes which are expected to be established are a Naional Biological Research Laboratory, a Desert Research Institute and a Central Institute of

Geophysics. The establishment of a Power Engineering Research Institute is contemplated and special provision is being made for aeronautical research, gas turbine research, investigations into wind power, production of iron without coking coal, investigation of the ionosphere and microphysics of the cloud, and research on essential oils, medicinal plants and biological products. Regional laboratories for the Botanical and the Zoological Surveys are to be established. Among the expansion schemes to be undertaken are the setting up of a Central Herbarium, a Marine Biological Station, a Fresh Water Biological Station and a unit for Animal Population Studies. Provision has also been made for the establishment of small rural scientific laboratories known as *vigyan mandirs.* The *vigyan mandir* scheme has large possibilities of disseminating the scientific approach to local problems.

10. The plan provides for the establishment of a Physical Oceanographic Research Unit at Cochin for bathymetric work, measurement of temperature, sampling of water at surface and at depth, and study of ocean floor deposits. As mentioned earlier provision has also been made for the development of the Indian School of Mines and Applied Geology. Work on the preparation of a National Atlas will be organised during the plan period.

11. The University Grants Commission has drawn up proposals for assisting scientific and industrial research and higher technological education. Schemes for the improvement of libraries and laboratories in universities will also be assisted.

12. It is agreed on all hands that special efforts have to be made to bring about rapid development in scientific education and to ensure that the talents of scientific workers find full scope and are utilised in the solution of problems which are closely related to the needs of national progress. In the last analysis the progress of science will determine the rate of economic and social advance. The outstanding work of scientific workers in the country supports the belief that Indian science will make an ever-growing contribution to national development.

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